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Annual Administration Report of the  
Department of Animal Husbandry  
and Veterinary Science, Bombay  
State, for the Year  
1950-51

BOMBAY

PRINTED AT THE GOVERNMENT CENTRAL PRESS

Obtainable from the Superintendent, Government Printing and Stationery,  
Bombay, or through the High Commissioner for India, India House,  
Aldwych, London, W.C.2, or through any recognized Bookseller.

Price—Rs. 2 or 3s. 6d.

1952



**ANNUAL ADMINISTRATION REPORT OF THE DEPARTMENT OF  
ANIMAL HUSBANDRY AND VETERINARY SCIENCE,  
BOMBAY STATE, FOR THE YEAR 1950-51.**

**I. Administration.**

During the year under report I continued to hold charge of the post of Director of Animal Husbandry and Veterinary Science, Bombay State. I was on tour for 181 days and travelled 19,610 miles by rail and 2,601 miles by road. I visited 14 districts, inspected 60 Veterinary Dispensaries and the slaughter houses at Godhra and Dohad.

I visited the Cattle Breeding Farms at Bakrol (district Baroda) and Tegur (district Dharwar), the Sheep Breeding Farms at Patan (district Mehsana) and Poona, the old Sheep Breeding Farm at Kalyanpur (district Amreli), the Dairy Farm at Makarpura (district Baroda), the Milk Colony at Aarey, the Milk Collecting Centre under the Poona Milk Supply Scheme at Bebadohol and that under the Ahmedabad Milk Supply Scheme at Nayka, the Rabari Colony at Pratapnagar and the Rabari and Bharwad Settlements at Borsan and Devdarda.

During the course of my tours I visited Supplementary Cattle Breeding Centres and inspected the premium bulls and their progeny at Mugutkhan Hubli, Kittur and Mottebennur (district Dharwar), Panchgani, Haliyal and Kaj (district Amreli), the Sheep Farm at the Agricultural College, Dharwar, the Dangi bulls at the Agricultural School, Kumtha, the Goshalas at Haliyal, Dombivali and the Okha Bet, the Gopuri Sanstha at Kankavli and the Gowardhan Sansthas at Poona and Wai.

During the course of my tour I also inspected sites for buildings or buildings selected for the Veterinary Dispensaries at Chiplun, Ratnagiri, Siddapur and Karwar.

I attended the Khillar Cattle Show at Mahud (district Sholapur), the Dangi Cattle Show at Rajur (district Ahmednagar) and the Agricultural and Cattle Show at Dhari (district Amreli).

I served as an Examiner for the Bombay University at the Third year (Vet. Sc.) examination (Bombay Veterinary College) and for the Osmania University at the B.Sc. (Vet.) examination (Osmania Animal Husbandry College, Hyderabad).

I attended the meeting of the Southern Regional Committee of the Indian Council of Agricultural Research at Bangalore in September, the Animal Diseases and Pests Committee meeting and the meeting of a Special Committee of the Indian Council of Agricultural Research held at Delhi in November, the meeting of the Advisory Board of the Indian Council of Agricultural Research held at Delhi in January, and the meeting of the Animal Husbandry Wing of the Board of Agriculture and Animal Husbandry held at Izatnagar in March.

I also attended the meetings of the Bombay University Veterinary Science Committee in June and November at Bombay, and gave evidence before the Bombay University Reorganization Committee in July.

I attended the meeting of the Central Goshala Development Board held at Delhi in April, the meetings of the (State) Permanent Nutrition Committee held at Bombay in June, the meeting of the Sanchalaks of the Sarvodaya Centres in February at Bombay, and the meeting of the Slaughter-Houses Committee held at Bombay in March.

As Chairman of the Bombay Goshala Advisory Committee I convened a meeting of the Committee on the 6th December for the purpose of discussing matters connected with the Scheme for the Development of Goshalas and Panjrapoles.

I visited and inspected the Bombay Veterinary College, the Serum Institute, the Artificial Insemination Centre, the Ranikhet Disease Vaccine Laboratory and several subordinate offices, viz., those of the Divisional Veterinary Officer, Nasik, the Divisional Inspector of Cattle Breeding, Nasik, the District Veterinary Officer, Bombay Suburban District, Bandra, and the Agricultural Officer in charge Cattle Breeding, Haliyal.

I discussed a scheme for the control of Brucellosis at the Aarey Milk Colony with the Milk Commissioner, Bombay, and visited the Haffkine Institute, Bombay, to discuss measures for the control of Epizootic Lymphangitis among the horses of that Institute.

I assisted the Bombay Public Service Commission in connection with the selection of candidates for the posts of Disease Investigation Officer, Bombay State, Poona, Deputy Director of Veterinary Science, Bombay State, Poona, and Assistant Professors of Animal Husbandry, Pathology and Medicine, Bombay Veterinary College.

Shri S. V. Sakhadeo, G.B.V.C., M.Sc. (Iowa), continued to hold charge of the post of Deputy Director of Veterinary Science in B. V. S. Class-I up to the 26th January, when the post was converted into that of Personal Assistant in B. V. S. Class-II as a measure of retrenchment. He continued to work as my Personal Assistant from the 27th January to the end of the year.

In addition to assisting me in my office work, Shri Sakhadeo also inspected the Veterinary Dispensaries at Nandurbar, Vyara, Bardoli, Surat and Bulsar and inspected the office of the Divisional Veterinary Officer, Surat. He audited the accounts and checked the Library Books and Dead Stock Articles of the Bombay Veterinary College and other subordinate offices in Bombay. He also served as an Examiner at the B.Sc (Vet.) examination of the Bombay University.

Shri S. S. Khot, B.Ag., continued to hold charge of the post of Deputy Director (Livestock) in my office throughout the year under report in addition to his own duties as Sheep Development Officer, Bombay State, Poona.

#### VETERINARY SECTION.

2. The supervisory staff in the districts in the Veterinary Section remained the same as in the previous year except that Shri N. C. Chikmath, Veterinary Inspector, Kolhapur, who had been placed under the

Divisional Veterinary Officer, Satara, to assist the latter officer in the administration of part of his large jurisdiction died on the 31st January, and with his demise the post was abolished. The jurisdiction of the Divisional Veterinary Officer, Surat, which at the beginning of the year consisted of 8 districts out of 11 in the Gujarat tract owing to the merger of the Gujarat and Baroda States with Bombay was reduced to 5 by transferring the districts of Banaskantha, Sabarkantha and Panch Mahals to the charge of the Divisional Veterinary Officer, Baroda, as it was not found possible to create additional posts of Divisional Veterinary Officers with the result that the former looked after 5 and the latter 6 districts with effect from the 1st September.

(i) Major W. V. Soman, G.B.V.C., continued to hold charge of the Baroda Veterinary Division (now comprising the districts of Baroda, Mehsana, Amreli, Sabarkantha, Banaskantha and Panch Mahals) from the 1st April to the 9th May and from the 24th June to the 14th March. He was on leave from the 10th May to the 23rd June, and during his absence on leave Shri S. S. Patkar, Veterinary Assistant Surgeon, Alibag, officiated as Divisional Veterinary Officer. Shri R. C. Khare took over charge of the Division on the 15th March, consequent on the transfer of Major Soman as Divisional Veterinary Officer, Dhulia, and the former continued to hold charge of the Division till the end of the year.

Major Soman was on tour for 93 days and travelled 2,180 miles by rail and 561 miles by road. He inspected all the Veterinary Dispensaries in his Division—some of them twice—and also the First-aid Veterinary Medicine Chests maintained at two places. During the course of his tour he visited three villages for checking the district work of the Veterinary Assistant Surgeons.

(ii) Shri M. D. Vaishnav, G.B.V.C., held charge of the Surat Veterinary Division (now comprising the districts of Surat, Ahmedabad, Kaira, Broach and Dangs) from the 1st April to the 30th June, when he proceeded on leave preparatory to retirement. Dr. B. B. Mundhe, G.B.V.C., Dr. Med. Vet. (Munich), an officer of the former Baroda State, was taken up as Divisional Veterinary Officer and he held charge of the Division from the 1st July to the end of the year.

Shri M. D. Vaishnav was on tour for 29 days and travelled 936 miles by rail and 221 miles by road. He inspected 7 Veterinary Dispensaries and attended the meeting of the Kaira District Rural Development Board at Nadiad.

Dr. B. B. Mundhe was on tour for 142 days and travelled 2,647 miles by rail and 868 miles by road. He inspected all the Veterinary Dispensaries in his Division and paid visits to two places to select sites or buildings for Veterinary Dispensaries. During the course of his tour he attended five out-breaks of diseases, visited 12 villages to supervise the district work of the staff and also visited the Panjrapole at Surat. He attended the Cattle Show at Vyara and acted as Chairman of the Judging Committee. He also attended a meeting of the District Rural Development Board, Panch Mahals at Godhra.

(iii) Shri G. K. Khasgiwale, G.B.V.C., continued to hold charge of the Dhulia Veterinary Division (comprising the East Khandesh and West Khandesh Districts) from the 1st April to the 3rd September. Shri. R. C. Khare, G.B.V.C., Divisional Veterinary Officer in charge Stockmen's Training Class at Poona, was, due to the closing down of the class, placed in charge of the Dhulia Division with effect from the 4th September. Shri Khare continued to hold charge of the Division until the 7th March, when he was transferred as Divisional Veterinary Officer to Baroda. Major W. V. Soman, G.B.V.C., held charge of the Division from the 24th March, till the end of the year under report. During the intervening period from the 8th to the 23rd March, Shri N. G. Bhide, Veterinary Assistant Surgeon, Dhulia, looked after the current duties of the office of Divisional Veterinary Officer, Dhulia, in addition to his own.

Shri G. K. Khasgiwale was on tour for 65 days and travelled 826 miles by rail and 1,035 miles by road. Shri R. C. Khare was on tour for 59 days and travelled 667 miles by rail and 1,031 miles by road. The two officers together inspected all the Veterinary Dispensaries in the Division more than once, paid a surprise visit to one Veterinary Dispensary, attended five outbreaks of contagious diseases and checked the district work of the Veterinary Assistant Surgeons and Stockmen in 9 villages. They also visited the Cattle Dipping Tanks in the Division from time to time and guided the Veterinary Assistant Surgeons in the dipping operations. Shri G. K. Khasgiwale attended the cattle shows at Waghali in Chalisgaon Taluka and Bhaler in Nandurbar Taluka. Shri R. C. Khare attended the cattle show at Shirud in Dhulia Taluka and acted as a member of the judging committee.

(iv) Shri D. M. Chavan, G.B.V.C., A.I.D.I., continued to hold charge of the Nasik Veterinary Division (comprising the districts of Nasik, Ahmednagar and Thana) throughout the year under report. He was on tour for 145 days and travelled 3,515 miles by rail and 3,490 miles by road. He inspected all the Veterinary Dispensaries in his Division—some of them twice—and paid surprise visits to three Veterinary Dispensaries. He attended meetings of the District Rural Development Boards and visited the Cattle Dipping Tanks operating in his Division. He paid visits to two places for selecting sites or buildings for Veterinary Dispensaries.

(v) Shri R. G. Deshpande, G.B.V.C., held charge of the Poona Veterinary Division (comprising the districts of Poona, Sholapur and Kolaba) throughout the year under report. He was on tour for 91 days and travelled 2,014 miles by rail and 1,500 miles by road. He inspected all the Veterinary Dispensaries in his Division—some of them twice—supervised the immunization work at Sholapur during the Gadda Fair in connection with the control of an outbreak of Rinderpest and paid surprise visits to Veterinary Dispensaries. He attended a meeting of the District Rural Development Board at Sholapur and the cattle shows at Mahud and Kondhanpur. He paid visits to three places for selecting sites or buildings for Veterinary Dispensaries.

(vi) Shri S. H. Bapat, G.B.V.C., held charge of the Satara Veterinary Division (comprising the districts of North Satara, South Satara, Kolhapur, Belgaum and Ratnagiri) for the entire period of the year under report. He was on tour for 142 days and travelled 1,461 miles by rail and 3,769 miles by road. He visited and inspected all the Veterinary Dispensaries in his Division—some of them twice— and paid surprise visits to 8 Veterinary Dispensaries. He also inspected the 3 Veterinary Dispensaries entirely maintained by the Local Bodies, viz., those at Miraj, Phaltan and Taradgaon. He visited the Cattle Dipping Tanks at Tandulwadi and Turkewadi and guided the Veterinary Assistant Surgeons in the dipping operations. He attended the cattle show at Bramhapuri in Koregaon Taluka of Satara District and the District Rural Development Board meeting at Sangli. He attended an outbreak of disease at Kirloskarwadi, checked the district work of the staff at two places, and visited the slaughter-house at Belgaum where departmental inspection of animals tendered for slaughter is being carried out.

Shri N. C. Chikmath, G.B.V.C., continued to hold the post of Veterinary Inspector, Kolhapur, till the 31st January, the date on which he died. He assisted the Divisional Veterinary Officer, Satara in administering the Veterinary Dispensaries in the Kolhapur and South Satara Districts. He was on tour for 106 days and travelled 1,826 miles. He inspected all the Veterinary Dispensaries in the Kolhapur and South Satara Districts.

(vii) Shri N. G. Sahasrabudhe, G.B.V.C., held charge of the Dharwar Veterinary Division (comprising the districts of Dharwar, Bijapur and Kanara) from the 1st April to the 28th February. Shri V. M. Kotbagi, G.B.V.C., who was officiating Divisional Veterinary Officer on Special Duty for supervising the inspection of animals tendered for slaughter at the Slaughter-Houses was, on abolition of the post, placed in charge of the Dharwar Division from the 1st March, and he continued to hold charge of the Division until the end of the year.

Shri N. G. Sahasrabudhe was on tour for 112 days and travelled 4,061 miles by rail and 2,186 miles by road. He inspected 37 Veterinary Dispensaries and visited 6 villages for checking the district work of the Veterinary Assistant Surgeons. He visited the Cattle Dipping Tank at Devgiri to supervise the dipping operations, attended the opening ceremony of the cattle dipping tank at Hosriti and inspected the repair work at the Cattle Dipping Tank at Devarhippargi. He attended two cattle fairs, one at Bijapur and the other at Chadchan, and two meetings called by the Collector of Bijapur, one in connection with the administration of the villages in the merged States areas and the other in connection with the establishment of a Famine Cattle Camp. He visited Karwar and Ankola in the Kanara District with a view to selecting buildings for Veterinary Dispensaries.

Shri V. M. Kotbagi was on tour for three days and travelled 390 miles by rail and 12 miles by road. He conducted an enquiry into a complaint against a Veterinary Assistant Surgeon.

(viii) Shri R. C. Nathani, G.B.V.C., Deputy Superintendent, Bombay City and Harbour Veterinary Department, continued to work as District Veterinary Officer for the Bombay Suburban District in addition to his own duties throughout the year. He inspected the Veterinary Dispensary at Bandra and the work of the two First-Aid Veterinary Posts at Jogeshwari and Kurla on several occasions. He supervised the work of immunization of milch buffaloes arriving in Bombay at the Bamy railway siding at Khar Road, the Bandra railway siding and the Kurla railway siding and generally looked after the Veterinary activities in the Bombay Suburban District. He attended 20 outbreaks of contagious diseases and visited 65 places for checking vaccinations.

(ix) Shri V. M. Kotbagi, G.B.V.C., Divisional Veterinary Officer on Special Duty for supervising the work of inspection of animals tendered for slaughter under the Bombay Essential Commodities and Cattle (Control) Act, 1946, continued to be in charge of the work until the end of February. As a measure of retrenchment, the post of Divisional Veterinary Officer on Special Duty was abolished with effect from the 1st March, and the Divisional Veterinary Officers in the districts were entrusted with the supervision of the slaughter-houses in their respective jurisdictions.

Shri Kotbagi was on tour for 110 days and travelled 8,188 miles by rail and 766 miles by road. He regularly visited the slaughter-houses at the places at which the Department is conducting the inspection of animals tendered for slaughter. During the course of his tours, he also inspected several other slaughter-houses to see that the quota allotted to them was being adhered to and that the restrictions on the slaughter of useful cattle were not being infringed.

He also surveyed most of the slaughter-houses and submitted a report on their condition with a view to enabling me to submit proposals to Government for their improvement including the enactment of special legislation.

## II. Veterinary Education.

3. *The staff—(i) Professors (B.V.S. Class-I).*—Shri S. R. Chadha, B.Sc., M.R.C.V.S., continued to hold the posts of Principal, Bombay Veterinary College, and Professor of Surgery, throughout the year. Shriyuts J. P. Damri, G.B.V.C., K. R. S. Aiyer, G.B.V.C., F. S. Khambata, B.Ag., M.Sc., G.B.V.C., and S. P. Deshpande, G.B.V.C., A.I.D.I., continued in the posts of Professors of Physiology, Pathology, Animal Husbandry and Dairy Science and Medicine, respectively. Shri R. N. Naik, G.B.V.C., continued in his post as Bacteriologist and Vice-Principal throughout the year except for the period from the 25th April to the 24th May, when he was on leave and Shri Chadha held charge of the post in addition to his own duties.

(ii) *Assistant Professors (B.V.S. Class-II).*—Shriyuts D. B. Khole, G.B.V.C., K. R. Alur, G.B.V.C., S. R. Hattangady, G.M.V.C., G. H. Joshi,

G.B.V.C., S. J. Khambele, G.B.V.C., R. M. Kalapesi, G.B.V.C. and M. H. Nagamia, G.B.V.C., continued as Assistant Professors.

(iii) *Lecturers and Hospital Surgeon*.—The eight Lecturers and the Hospital Surgeon continued in their posts.

Dr. S. R. Rao, M.Sc., D.Sc., Parasitologist, continued to impart instruction to the students at the College in Parasitology.

4. *The students*.—There were 170 students on the college rolls at the beginning of the year. The University Examinations for the different years were held during the months of March and April, at which 169 students appeared, of whom 123 passed out successfully. Twenty-seven (27) students, having passed the qualifying B.Sc. (Vet.) examination, left the college and 47 students left the college due to failure or other reasons. The results of the examinations are shown in Table XI-A.

In addition, 25 students appeared for examination in different classes as ex-students, and of them 22 passed.

5. In June, 52 new students were admitted to the First Year Science (Vet.) Class, of whom 11 left the college soon after, 4 had to leave the college as they were declared medically unfit by the Presidency Surgeon, 1 died and 1 more left the college during the course of the year.

In addition, 16 students who had passed the University Examinations as ex-students were re-admitted to the College in the different classes. Of these 1 in the Second Year Science Class left the college during the course of the year. Thus the total number of students on the college rolls at the end of the year was 146. The number of students who received training in the different classes is shown in Table XI-B.

6. Of the 52 students admitted in June, 17 left the college as stated above. Of the remaining 35, 28 were from the Bombay State, 4 from Orissa, 2 from Saurashtra and 1, a paying student, from Ceylon. All the newly-admitted students had passed the Intermediate Science "B" Group examination.

7. The results of the annual examinations held in March-April, 1950 were as follows :—

Class.	Percentage of Passes.	
B.Sc. (Vet.)	...	77.14
Third year Science	...	85.71
Second year Science	...	60.66
First year Science	...	70.73

8. *Scholarships*.—Of the 111 Government scholars at the commencement of the year, 23 passed the B.Sc. (Vet.) examination and left the college. The scholarships of 25 students were withdrawn due to failure to pass the annual examinations. At the commencement of the session in June, scholarships were awarded to 28 fresh students, of whom two did not avail themselves of them. Government were pleased to revive the

scholarships of 13 students. Thus, there were 102 students in receipt of Government scholarships towards the end of the year.

The Governments of other States continued to give scholarships to their respective scholars studying at this college. Thus at the close of the year almost all students were in receipt of scholarships either from the Bombay or some other Government. The details of the scholars are shown in Table XI-C.

9. *Clinical Instruction*.—Clinical instruction was imparted to the students at the Bai Sakarbai Dinshaw Petit Hospital for Animals. During the year under report, at this Hospital 7,454 animals were treated as against 5,770 during the year previous. Of these 2,370 were in-patients of different species (equines 395, bovines 245, canines 1,445, deer 10, rabbits 6, goats 148, cats 72, monkeys 6, panthers 2 and birds 41), and 5,084 out-patients. The number of out-patients treated during the previous year was 3,141.

Fifty-nine (59) dogs, four (4) goats, one (1) deer and six (6) bovines were given a full course of anti-rabic treatment during the year.

The average daily attendance at the Hospital was 99.28 as against 120.1 during the year previous.

10. *Excursions*.—The students were taken to various institutions, farms, goshalas and slaughter-houses in the State with a view to imparting practical training to them.

11. *Riding Class*.—Arrangements were made to impart training in riding to the Final Year students at the "James' Academy" at Bombay and 42 students underwent instruction in riding successfully.

12. *Laboratory*.—Specimens numbering ten thousand one hundred and thirty-eight (10,138) were received from all over the State for diagnostic examination and 832 proved positive for various diseases.

13. *Bacteriological Research Scheme*.—The work under this scheme was continued during the year. Dr. D. K. Desai, G.B.V.C., D.V.M. (Toronto), Assistant Pathologist, remained on duty up to the 21st October, when he was deputed for service under the Seychelles Government and the vacancy was filled in by the appointment of Shri W. V. Chatuphale, G.B.V.C., from the 19th March.

(i) *Mastitis*.—The research work on this disease is being carried out under a special scheme subsidised by the Indian Council of Agricultural Research and an account thereof is given in paragraph 30(iv).

(ii) *Contagious Bovine Abortion*.—The incidence of this disease was investigated in certain dairies in the Bombay City and Suburbs by the application of the agglutination test. The total number of animals tested was 1,017, of which 21 per cent. reacted positively.

A strain of *Brucella abortus* was isolated from the foetus of an aborted buffalo at Chandivli in the Bombay Suburb.

(iii) *Tuberculosis*.—Sixty-one (61) cows and Ninety-six (96) buffaloes from four dairies in the Bombay City and Suburbs were tested by the D.I.D. tuberculin test. Five (5) of the former and Nine (9) of the latter gave positive results.

(iv) *Miscellaneous Research Work*—(a) *Surra in cattle*.—With a view to collecting information regarding the incidence of Surra from April to November blood smears from 790 animals at three dairies were examined microscopically. Ten (10) apparently healthy animals (buffaloes) proved positive for Surra and they were treated with 'Antrypol'. This work indicates that buffaloes can act as reservoirs of Surra.

(b) *Brain abscess*.—*Corynebacterium pyogenes* was isolated from an abscess in the brain of a buffalo which had shown symptoms of gid before death.

(c) *Bovine Farcy*.—This disease was reported from the North Kanara District. The symptoms shown by the affected animals were studied and work on the etiology of the condition was in progress when the year closed.

14. *Histo-Pathological Section*.—Students were given lectures on Histology, Pathology and Meat Inspection. During the year under report 68 post-mortem examinations were performed of which 19 were on dogs, 8 on horses, 6 on cattle, 2 on buffaloes, 8 on goats, 8 on guinea pigs, 3 on rabbits, 2 on cats, 1 on sheep and 11 on various kinds of birds.

One hundred and eighty-four (184) specimens were subjected to histopathological examination. Of these 102 were from the College Hospital, the surgical and bacteriological sections, etc. and the remaining 82 from the field workers.

Forty-seven (47) specimens of hides, wool, sausage-casings and guts intended for export were subjected to biological tests for evidence of contagious diseases, but all proved negative.

The interesting museum specimens were mounted as usual. A most interesting specimen was one of *adeno-carcinoma* from the mammary gland of a bitch with metastatic growths in the lungs, spleen, adrenals and heart. Other specimens worth mentioning were *osteosarcoma* of the radius of the left-fore limb of a dog and the spleen of a horse affected with glanders.

15. *Physiology and Biochemistry Section*.—During the year forty-two (42) samples of urine and one (1) of milk were examined for abnormal constituents. Of the urine samples, 23 showed the presence of abnormal constituents like albumin, sugar, blood, acetone bodies, etc. Investigations to determine the calcium content of blood in animals in health and disease were planned, but they could not be taken in hand due to lack of equipment for want of funds.

16. *Pharmacy and Pharmacology Section*.—The students were given lectures on Medicine, Materia Medica and Pharmacology in this section. They were also given practical demonstrations on the actions and uses of drugs, etc.

17. *Anatomy and Embryology Section.*—Lectures in the subjects of Anatomy and Embryology were given to the students in the First Year Science and Second Year Science classes. Practical classes on these subjects were conducted in addition to dissection classes. The installation of electric lights and fans in the dissection hall has facilitated the teaching work.

The additional work of examining food stuffs sent by the field staff, Civil Supplies Department, Medical Colleges, etc., continued during the year. A total of 120 specimens was received as against 53 during the year previous for identification and report.

18. *Animal Husbandry Section.*—Practical training in Animal Husbandry and Shoeing was imparted to the students in addition to theoretical training. First Year Science students were taken to the Haffkine Institute for practical training in equine management; the Second Year Science students visited the Adarshya Dugdhalaya dairies at Malad and Palghar, the Cattle Breeding Farms at Kandivali and Boisar, the cattle salvage centre at Palghar, the Milk Colony at Aarey and the local goshas; and the B. Sc. (Vet.) students were taken to the various dairies in the City and Suburbs and also to the Poona Agricultural College Dairy and the Sheep Breeding Farm, Poona, the Institute of Agriculture, Anand and the Northcote Cattle Farm, Chharodi.

19. *Surgery Section.*—The B. Sc. (Vet.) students were engaged in surgery and obstetrics in this Section. The transfer of the subjects of "Operative Surgery" and "Soundness" to the B. Sc. (Vet.) class from the Third Year Science class has greatly facilitated the teaching of the subject of Surgery. The students were taught to read radiographs of the different species which was a great help to them in the diagnosis of surgical affections. Class lectures were also organised in the different wards during hospital hours.

Anavenol, an ascending type of anæsthetic, was tried successfully on equines during major operations.

20. *X-Ray Section.*—The following is the account of work carried out in the Section on X-Ray and Electric Therapy:—

(i) One hundred and twenty-five (125) radiographs were taken of patients like horses, cattle, goats, cats and dogs brought to the Hospital by the owners.

(ii) Five (5) radiographs were taken for diagnostic purposes.

(iii) Twenty (20) screenings were done for diagnosis to see the normal parts of the body.

(iv) Twenty-four (24) dogs including stray cases were treated for skin diseases of non-parasitic origin with good results. Four (4) dogs and 1 horse were treated with vibrating massage as an experimental measure but the results were not found to be encouraging. The Bai Sakarbai Dinshaw Petit Hospital for Animals, Bombay, made available a vibrating massage instrument for the use of the Section.

21. *College Hostel and Gymkhana.*—The College Hostel was full during the year. Shri K. R. Alur, Assistant Professor, continued as Hostel Superintendent. The students were given prophylactic vaccinations against typhoid, small-pox, and cholera. The health of the students, was good in general. A Bombay State Scholar, Shri D. S. Gondkar, studying in the First Year Science Class, died during the year, which is much regretted. The Medical Officer attended regularly and gave necessary medical aid to the students whenever required.

The students took part in the different indoor and outdoor games and contested the Inter-Collegiate matches.

22. *College Buildings.*—Ordinary current repairs to the College buildings were carried out by the Public Works Department as usual during the year.

23. *Employment.*—All the students who graduated during the year found employment either in the Department or elsewhere.

24. *Extra duties of the Principal.*—Shri S. R. Chadha visited the Bandra Slaughter House 21 times and inspected the cattle tendered for slaughter. He conducted the annual examinations of the Stockmen's Training Classes at Dharwar, Poona and Makarpura (Baroda), and also supplementary examinations for the unsuccessful candidates. He convened a meeting of the District Veterinary Officer, Bombay, Suburban District, and the Veterinary Inspectors in charge of the immunization scheme operating in Bombay and the Bombay Suburban District, and discussed with them matters connected with the immunization work and tendered advice. He also attended outbreaks of Hæmorrhagic Septicæmia and Suria at Chandivli and Chembur, respectively, for applying control measures.

He visited the Aarey Milk Colony 9 times and tendered advice on the control of cattle diseases at the Colony. He also served as a Member of the Reception Committee formed to welcome the Animal Welfare Delegation of the India Society, London, which visited India during the year and visited local Panjrapoles and Goshalas in company with the Delegation. As usual he served as Honorary Presidency Magistrate and disposed of 86 cases under the Prevention of Cruelty to Animals Act.

25. *Stockmen's Training Classes (Post War Reconstruction Scheme No. 46).*—The Stockmen's training classes at Poona, Dharwar and Baroda were continued for some time during the year. Government decided to close down the classes as a measure of retrenchment due to financial stringency, and accordingly, the classes were closed down after examination of the students already undergoing training. The Poona Class was closed down on the 25th July, the Dharwar Class on the 1st August and the Baroda Class on the 26th November.

The total expenditure incurred during the year under report in connection with the three centres was Rs. 39,230, and the expenditure on stipends paid to the students amounted to Rs. 23,608.

(i) *The Stockmen's Training Class, Poona.*—There were 33 students undergoing training at the Class. At the annual test examination held in July, 27 students passed out successfully. Of the 6 unsuccessful students, one passed at the supplementary test after further practical training.

(ii) *The Stockmen's Training Class at Dharwar.*—There were 49 students undergoing training at this Class. At the Annual test examination held in July, 29 students proved successful. Of the unsuccessful students who were instructed to undergo further practical training at the various Veterinary Hospitals and Dispensaries, 19 proved successful at the supplementary examination.

(iii) *The Stockmen's Training Class at Makurpura (Baroda).*—There were 32 students (24 from the Bombay State and 8 from Saurashtra) under training at the class. The annual test examination was held in September, and 31 students, including all from Saurashtra, were declared successful.

In all a total of 333 students was trained under the scheme since its inception.

### III. Manufacture of Sera and Vaccines.

26. *Serum and Vaccine Institute (Post War Reconstruction Scheme No. 50).*—Shri S. N. Sapre, G. B. V. C. M. Sc., continued to hold charge of the post of Superintendent, Biological Products, throughout the year under report.

The Institute continued to be accommodated in the compound of the Lazaretto at the Bombay Veterinary College. The Institute was supplied during the year under report with several items of laboratory equipment and apparatus such as Bulk Sterilizer, a Boiler, a Vac-fill machine, a Meat mincing machine, Anarobic jars, etc., costing nearly Rs. 68,000. The Bulk Sterilizer and Boiler were temporarily installed at the Institute towards the end of the year by putting up temporary sheds. A temporary shed for experimental animals was also constructed.

The following table shows the quantities of the various vaccines produced and distributed for field use during the year under report :—

Name of Biological Product	No. of doses produced	No of doses issued
1. Hæmorrhagic Septicæmia Vaccine	.. 4,67,450	5,11,150 *
2. Black Quarter Vaccine	... 1,93,700	2,10,100 *
3. Sheep and Goat Pox Vaccine	... 18,100	18,100
4. Fowl Pox Vaccine	... 1,000	900

\* The excess supplied was from last year's stock.

A sum of Rs. 1,703 was realized from the sale of 12,900 doses of Hæmorrhagic Septicæmia, Black Quarter and other vaccines to outside bodies.

To overcome the difficulty about the procurement of small laboratory animals a small Breeding Centre for breeding guinea pigs, rabbits, fowls, etc., was started at the site acquired for the establishment of the Serum Institute at Poona during the latter half of the year under the control of Superintendent, Biological Products. Breeding work is proceeding successfully.

Due to the limited accommodation at Bombay, the production of vaccines on a large scale could not be undertaken and it will be necessary to have a proper set of permanent buildings for the Institute at Poona. Proposals for construction of a block for the testing section are under the consideration of Government.

So far the "Z" site measuring 58 acres and 1 guntha and a contiguous piece of private land measuring 29 acres and 25 gunthas have been acquired and proceedings were in hand during the year for the acquisition of the area known as the Military Poultry Farm, Aundh, measuring 53 acres and 2 gunthas, which is at present held under requisition by the Department.

27. *Goat Virus Producing Stations.*—Shri G. A. Hardikar, G.B.V.C., continued to be in charge of the Goat Virus Producing Station, Bombay. The sub-stations at Jalgaon, Dharwar and Baroda, continued to be in charge of Veterinary Assistant Surgeons. Shri Hardikar visited the sub-stations at Jalgaon, Dharwar and Baroda to inspect and supervise their work. The work of the sub-station at Baroda was temporarily suspended with effect from the 1st November, as there was not much demand for Goat Virus from the Gujarat tract. The sub-station did not resume functioning till the end of the year.

A total of 9,85,320 doses (Bombay 4,85,180, Jalgaon 3,96,880, Dharwar 94,180 and Baroda 9,080) of Goat Virus Vaccine was produced during the year under report as against 7,78,400 during the year previous. Of the above, 8,54,720 were supplied to the field staff during the year under report. The total expenditure on the Goat Virus Producing Station, Bombay, and its branches at Jalgaon, Dharwar and Baroda amounted to Rs. 89,721 as against Rs. 73,654 during the year previous. A sum of Rs. 8,304 was realised from the sale of used and unserviceable goats as against Rs. 7,021 during the year previous. The amount realised from the sale of the vaccine to outside bodies was Rs. 785 as against Rs. 845 during previous year.

28. *Ranikhet Disease Vaccine Laboratory.*—Shri S. R. Nadgir, G.B.V.C., continued to be in charge of the laboratory assisted by a Veterinary Assistant Surgeon. Four brews of Vaccine consisting of 1,13,000, 50,000, 50,000 and 50,000 doses, respectively were prepared bringing the total production during the year to 2,63,000 doses as against 2,30,500 during the year previous. Of the above, 2,06,000 doses were issued for field use. The Government Central Poultry Farm, Kirkee, continued to supply eggs and birds to the Laboratory for manufacture of the vaccine. In case of shortage of stock at the Government Poultry Farm, local purchase was

resorted to. One thousand, seven hundred and thirteen (1,713) eggs were received from the Farm as against 1,671 during the year previous.

The Laboratory staff protected 1,477 birds with Ranikhet Disease Vaccine at Headquarters and 188 birds during the course of their tours and carried out propaganda for popularising the vaccine among the poultry keepers.

A pilot scheme for the immunization of birds against Ranikhet disease had been launched towards the close of the preceding year in the Haveli Taluka of the Poona District and in the Dharwar Taluka of the Dharwar District. Six stockmen were specially detailed for carrying out vaccinations. They visited 61 villages in the Haveli Taluka and 19 in the Dharwar Taluka and vaccinated in them 5,694 and 2,258 birds, respectively. The scheme was terminated on the 12th April in the Dharwar Taluka and on the 15th May in the Haveli Taluka (District Poona).

The expenditure during the year on the Laboratory amounted to Rs. 10,005 as against Rs. 12,029 during the year previous. Rs. 7-12-6 were realised from the sale of experimental birds and certain miscellaneous articles.

#### IV. Artificial Insemination Section.

29. Shri C. R. Sane, G.B.V.C., continued to hold charge of the post of Special Officer in charge Artificial Insemination Section throughout the year under report. He was on tour for 65 days and travelled 3,507 miles by rail and 210 miles by road.

(i) *Scheme for the establishment of Artificial Insemination Centre at Poona.*—The scheme for the establishment of an Artificial Insemination Centre at Poona was sanctioned by Government in the month of April and the necessary preliminary arrangements for its implementation were soon taken in hand. The Centre is located at the Boat Club Building, Kirkee, which has been hired by the Department. A Laboratory, loose boxes for bulls, store-room, fodder shed and standings for teaser animals have been provided at the boat club. Laboratory equipment, furniture, etc., have been purchased. A new service crate has been provided and water pipes are being laid. The open space round about is being secured for being used as bull paddocks and exercising ground, for stacking hay, and for providing some grazing ground for the animals maintained at the Centre. The Centre is located in close proximity to the Poona City and is, therefore, very suitable and convenient for the purpose in hand.

Good pedigreed Murrah and Surti buffalo bulls could not be obtained either from Government Farms or private institutions, and, therefore, a non-pedigreed Murrah bull and three Surti bulls had to be purchased from dealers. In addition, two pedigreed Sindhi bulls and one teaser buffalo heifer were purchased.

The preliminary arrangements in connection with Artificial Insemination work took a long time, the main difficulties in the way being those of obtaining laboratory equipment and the pedigreed stock of

bulls, for which a search had to be made in many institutions including certain dairy establishments in Gujarat and elsewhere. The bulls were under training for some time and the actual work of insemination was started in January of the year under report. The total number of animals inseminated upto the end of the year was 45, of which 27 were cows and 18 buffaloes. The inseminations were done purely as an experimental measure, since proper equipment was not available until the end of the year. Almost all the inseminated animals belonged to private individuals. A follow-up showed the conception rate to be 65 per cent.

(ii) *Other work.*—Sixty (60) animals were examined for pregnancy and sixteen (16) for sterility. Of the latter, 12 were cases of Cystic Ovaries and 4 were affected with endometritis. Suitable treatment for all cases was advised.

The technical control of the Artificial Insemination Centre at Anand being in the hands of the Special Officer in charge Artificial Insemination Section, Bombay State, Poona, it was visited by him twice during the year, and necessary advice was given to the officers at the Institute.

Propaganda on behalf of the Section was carried out by the two Assistant Artificial Insemination Officers sanctioned under the scheme with the help of stockmen and valuable information regarding the type of animals found in the different localities was collected by them.

Agricultural and Cattle shows were attended by the staff and artificial insemination stalls were put up to give wide publicity to the new method of breeding. The stalls were visited by a large number of farmers, particularly, those put up at the exhibition held in connection with the Nasik Congress Session.

## **V. Research.**

### **DISEASE INVESTIGATION SECTION.**

30. The Section consists of a Disease Investigation Officer, an Assistant Disease Investigation Officer (Sheep and Goats) and an Assistant Disease Investigation Officer (Poultry) for the investigation of diseases of cattle, sheep and goats, and poultry, respectively.

The first and the third officers are functioning under Post War Reconstruction Scheme No. 49 (Scheme for the expansion of Investigation Staff and Establishment of Animal Husbandry Research Station). The second officer continued to work under the scheme subsidised by the Indian Council of Agricultural Research. The Officers carried out investigations into various diseases of animals and poultry according to the technical programmes approved by the Indian Council of Agricultural Research.

During the year under report a scheme for the investigation of Mastitis subsidised by the Indian Council of Agricultural Research was sanctioned by Government with staff consisting of one Graduate Assistant, one Laboratory Assistant and one peon. The Bacteriologist, Bombay Veterinary College was placed in charge of this scheme.

30. (I) *Disease Investigation Officer, Bombay State*.—Shri H. V. Kulkarni, G.B.V.C., took over charge of the post of Disease Investigation Officer, Bombay State, Poona, on the 1st April and continued to hold the same throughout the year under report.

Shri Kulkarni was on tour for 158 days and travelled 9,084 miles by rail and 1,423 miles by road. He visited 140 villages in 7 Districts. He carried out investigations into the following diseases during the year:—

(a) *Bacterial diseases.*

(i) *Brucellosis in cattle*.—Three hundred and sixty-five (365) samples of sera were collected from animals at various farms and subjected to the agglutination test. Of these sixty-two (62) proved positive.

At present 8 farms, viz., those at Sabarmati, Kandivli, Dombivali, Walchandnagar, Bategaon, Jogeshwari, Bhojapur and Palghar are under calf-hood vaccination. A total of four hundred and thirty (430) calves was vaccinated during the year. The results of calf-hood vaccinations, so far observed, are promising.

All the positive reactors and aborters were isolated and suitable control measures advised.

Isolation of *Brucella abortus* was attempted by collecting suitable material from seven (7) cases with unsuccessful results.

Smears were, however, prepared from the placental cotyledons of eleven (11) aborted animals and all showed the presence of *Brucella abortus* on microscopical examination. The results of agglutination test on these cases were positive.

(ii) *Bovine Tuberculosis and Johne's Disease*.—A total of eight hundred and nine (809) animals (cattle 138, buffaloes 571) of all ages and breeds was tested with concentrated tuberculin by the D. I. D. method and 79 (cattle 11, buffaloes 68) gave positive reaction.

Thirty-seven (37) animals were tested with Johnin by the same method but none reacted to the test. The tests were carried out at the Kopargaon, Manjri, Palghar, Sabarmati and Walchandnagar farms and the Ahmednagar Panjrapole. Isolation of the positive reactors was advised.

Three cases of pulmonary tuberculosis, two in cows and one in a bullock, were detected. The disease was confirmed in one cow and in the bullock by microscopical examination of sputum collected directly from the throat.

Microscopical examination of milk from four positive reactors yielded negative results for the presence of T. B. organisms.

(b) *Protozoan diseases.*

(i) *Bovine surra*.—To detect latent cases of surra amongst bovines, samples of blood sera collected from sixty-eight (68) apparently healthy cattle and buffaloes from different areas affected with equine surra were forwarded to the Indian Veterinary Research Institute, of which twenty-three (23) proved positive for surra on both the complement fixation and M. B. 744 tests.

(ii) *Equine Surra*.—Three outbreaks of surra in horses (one at Mathuran, one at Uran and one at Panvel) were investigated. Blood smears from all the horses numbering fifty-seven (57) were examined, of which twenty-nine (29) proved positive for surra. All the affected and non-affected horses were treated with "Naganol" either as a curative or prophylactic measure with satisfactory results.

(iii) *Coccidiosis*.—Nine (9) cases were detected amongst cow calves. Microscopical examination of faeces revealed oocysts of *Eimeria zurni*. All the cases recovered as a result of treatment with "Mecryl" (M & B).

(iv) *Piroplasmosis*.—In all three cases, two in buffaloes and one in a bullock, were detected and confirmed on microscopical examination of blood smears. Two out of the three cases were successfully treated with "Phenamidine" (M & B).

### (c) *Helminthic Infestations.*

(i) *Fascioliasis*.—Ninety-six (96) samples of faeces were examined microscopically of which thirty-nine (39) were found to show ova of the liver-fluke, *Fasciola gigantica*.

Two outbreaks of Fascioliasis, one at Ahmednagar and the other at Jarnkhandi, were investigated. There had been one hundred and four (104) attacks with sixty-nine (69) deaths among the cattle and buffaloes before the disease could be correctly diagnosed. Symptoms suggestive of parasitism were observed in thirteen cases. Microscopical examination of faeces from these cases revealed ova of *F. gigantica* in large numbers. Many flukes were recovered on *post-mortem* examination from a cow and a bullock which had died of the disease.

Treatment of animals with "Hexachlorethane" and of the river beds with copper sulphate was advised and the results reported were satisfactory.

(ii) *Haemonchosis*.—This infestation was detected at one of the Government farms. Twelve (12) samples of faeces were examined, of which five were found to show ova of *H. contortus*. Treatment with Phenothiazine and change of pasture was advised.

(iii) *Ascariasis*.—Samples of faeces from thirty-eight (38) calves showing symptoms of parasitism were examined microscopically, with the result that thirteen (13) were found to show ova of *Ascaris vitulorum*. All the cases were treated with oil and turpentine successfully.

(iv) *Amphistomiasis*.—There was a general complaint of diminution of milk and debility in buffaloes at Eru-Four Roads. Faecal samples from three (3) buffaloes showed, on microscopical examination, the presence of an ova of *Paramphistomum cervi*. 'Hexachlorethane' was recommended for treating the affected animals. A similar disease condition was investigated at Yellapur.

(v) *Nasal Schistosomiasis*.—One hundred and nine (109) cattle affected with this disease at Sangur (District Dharwar) were treated with "Anthiomalin" (M & B), of which one hundred and six (106) were cured. To effect a complete cure, four to five intramuscular injections of "Anthiomalin", 20 c.c. per animal, at weekly intervals were found sufficient.

(d) Diseases of unknown origin.

Further investigation into the disease of unknown origin reported from the North Kanara District was carried out. In all seven (7) outbreaks of this disease were reported during the year under report. In these outbreaks sixty-four (64) attacks with fifty-six (56) deaths in cattle and buffaloes were reported. A pathological examination of blood smears from a cow and a bull as well as smears from the heart, spleen and liver of a cow and a bull died of the disease yielded negative results. Samples of carcasses and tissues from a cow and a bull after death were sent to the Central Veterinary Laboratory and M. B. 744 tests and in both cases the results proved negative for surra. Samples of blood-sera collected from cattle and buffaloes, non-affected, and cured cattle were tested by the C. S. and M. B. L. tests, of which eight (8) proved positive for surra.

In the light of the results obtained the disease is suspected to be Typanosomiasis.

(e) Miscellaneous.

(i) *Calypne monia*.—Four cases were detected amongst buffalo calves and they were treated with M. & B. 693 tablets with promising results.

(ii) *Sterility*.—Fifty-eight (58) cows and buffaloes were examined for sterility. Temporary suppression of oestrus, decreased fertility and delayed maturity were found to be of frequent occurrence. Malnutrition, heredity, hormonal as well as calcium and vitamin deficiencies appeared to be mainly responsible for causing sterility in the majority of the cases. The after-effects of abortion were also found responsible for sterility. The majority of the cases responded well to "Stilbestrol" coupled with nutritious diet.

(iii) *Cancer of the eye*.—Material collected from a bullock affected with cancer of the eye revealed histological features typical of squamous-celled carcinoma with surface ulceration (a highly malignant epithelial neoplasm).

30. (II) *Assistant Disease Investigation Officer (Sheep and Goats)*.—The Scheme for investigation into diseases of Sheep and Goats is subsidised by the Indian Council of Agricultural Research to the extent of 50 per cent. of the cost and has been sanctioned up to the 31st March 1952. The expenditure on the scheme amounted to Rs. 9,049-7-0 during 1950-51, half of which was borne by the Indian Council of Agricultural Research and half by the Bombay Government. (Table XIII-D).

Shri S. L. Manjrekar, G.B.V.C., A.I.D.I., continued to hold charge of the post of Assistant Disease Investigation Officer (Sheep and Goats) throughout the year under report. He was on tour for 121 days, travelled 7,494 miles by rail and 1,146 miles by road. He visited 73 villages in 26 talukas in 12 Districts. He carried out investigations into the following diseases during the year:—

(a) *Virus diseases*.

(i) *Sheep and Goat Pox*.—During the year only a few reports of this disease were received. Morbid material from naturally affected cases

was forwarded to the Indian Veterinary Research Institute but in only one case it proved positive for pox.

(ii) *Contagious Caprine pleuro-Pneumonia*.—No reports of this disease were received during the year under report. However, the results of the vaccinations carried out in three villages of the Thana District during the preceding year were evaluated and of the three vaccines tried, the culture vaccine was found to be the safest and best in controlling actual outbreaks.

(iii) *Rinderpest in Sheep and Goats*.—Unusual but widespread outbreaks of a disease of a very virulent and fatal nature amongst sheep and goats reared in the whole of the Southern Maratha country and the Malnad tract of Kanatak during the year. The disease was reported from 201 villages and investigations were carried out in 36 villages in 8 Districts. The disease could not be reproduced either in goats and sheep or laboratory animals either by the injection of blood, other body fluids, emulsion of bone marrow or discharges from the affected animals and for a time the diagnosis remained in doubt. However, the disease was ultimately reproduced by spraying the morbid material into the nostrils of experimental animals and the disease was diagnosed as Rinderpest of Sheep and Goats. This diagnosis was also confirmed by the Indian Veterinary Research Institute.

An interesting fact was that cattle in the locality where this disease was prevailing remained unaffected.

Eighteen thousand two hundred and seventy three (18,273) sheep and two thousand one hundred and fifteen (2,115) goats were reported to have suffered from the disease and 77.4 per cent. of the sheep and 94.4 per cent of the goats are estimated to have died.

During the year a total of 34,677 sheep and 2,869 goats was protected by the serum-simultaneous method (0.5 c.c. of goat blood virus and 10 c.c. of anti-rinderpest serum) with satisfactory results. About 7 to 9 per cent. of the protected animals died within 5 to 9 days of inoculation, presumably due to their having been in the incubation stage at the time of vaccination.

Besides, 4,203 sheep and goats were protected with serum alone in the beginning but the results were not satisfactory and the use of serum was discontinued.

As an experimental measure 102 sheep at the Poona and Pashan Farms were vaccinated with the latest Rinderpest vaccine, viz., Lapinized virus, from the Indian Veterinary Research Institute. The animals will be subjected to immunity tests later.

The following are some of the interesting observations made during the investigations on this disease :—

(1) Both sheep and goats were attacked and died simultaneously from the disease.

(2) Cattle and buffaloes though they were housed at night with the affected sheep and goats and grazed with them during day-time did not contract the disease.

(3) Lambs and kids were the worst sufferers presumably due to their increased susceptibility and the disease ran a very severe course in them.

(4) The disease was more virulent in goats than in sheep. The mortality in goats was 85 to 98 per cent., whereas in sheep it varied from 75 to 85 per cent.

#### (b) Bacterial diseases.

*Hæmorrhagic Septicæmia*.—During the year, reports of 34 outbreaks from as many villages were received. Seventy (70) blood smears were subjected to microscopic examination, of which 6 proved positive for bipolar organisms indistinguishable from *Pasteurella Septica*. These findings were confirmed by biological tests on rabbits. Eight thousand eight hundred and seventy (8,870) animals were protected with *Hæmorrhagic Septicæmia* vaccine, and the disease was brought under control with no further loss. Besides, as a prophylactic measure six thousand three hundred and eighty-eight (6,388) animals were protected at Government and subsidised farms just before the outbreak season and none of them contracted the infection when the disease broke out later in the surrounding villages.

#### (c) Protozoan diseases.

(i) *Coccidiosis*:—During the early winter months of the year under report cases of long-standing diarrhæa with emaciation and death in lambs were reported from six Talukas of the Southern Districts. The species of *Coccidia* encountered during the year previous were detected during the year under report also. Besides, a new species, "*Balantidium* species", which causes dysentery in man was also detected in four of the faecal samples. The field staff was advised to use Sulpha preparations in appropriate doses.

#### (d) Parasitic diseases.

(i) *Amphistomiasis*:—A disease reported as undiagnosed and taking a heavy toll of sheep and goats in a village near Haveri (District Dharwar) was investigated and was found to be *Amphistomiasis*. The whole of the flock was treated with Tetrachlorethylene with encouraging results. There was a marked decrease in the death rate after the treatment.

(ii) *Fascioliasis*:—This condition was encountered only on one occasion and was found to be due to *F. gigantica*. "Hexachlorethane" (I. C. I. preparation) gave good results. There were no deaths after commencement of treatment.

(iii) *Oesophagostomiasis*.—Work carried out on organised farms revealed that lambs do not contract the infection until they are 5 months old. Treatment with "Phenothiazine" gave good results. Routine dosing of animals with "Phenothiazine" saves a good many animals from falling a prey to *Oesophagostomiasis*.

#### (e) Miscellaneous.

A mild febrile disease caused by *Rickettsia* was investigated among animals at three farms. This condition appears to be enzootic and seasonal and ticks have been found to act as vectors.

Further investigation appears to show that the *Rickettsia* isolated is a new species having close resemblance to the *Rickettsia* causing *Murine Typhus* in man.

30. (III) *Assistant Disease Investigation Officer (Poultry).*—At the request of the Indian Council of Agricultural Research the Bombay Government agreed to finance the scheme for investigation into the diseases of poultry entirely from their own funds from the 1st April during the year under report, by absorbing the same in the State Veterinary Organization as a part of Post-War Reconstruction Scheme No. 49 (Scheme for Expansion of Investigation Staff and Establishment of Animal Husbandry Research Station).

Shri S. G. Dixit, G.B.V.C., continued to hold charge of the post of Assistant Disease Investigation Officer (Poultry) throughout the year under report. He was on tour for 108 days and travelled 6,829 miles by rail and 1,969 miles by road. The following diseases were further investigated by him during the year :—

(a) *Virus diseases.*

(i) *Ranikhet disease.*—Fourteen (14) outbreaks of this disease were investigated and 5,300 birds were protected with the chick-embryo vaccine. Chick-red cell agglutination method as an aid in quick diagnosis of Ranikhet disease was studied with negative and positive material. It gave encouraging results, though some difficulty was experienced in reading the results accurately. Mosquitoes of the species, *Anopheles stephensi*, failed to transmit Ranikhet disease. The immunity produced by the chick embryo vaccine was found to be solid upto a period of 11 months under field conditions.

(ii) *Fowl-pox.*—Seven (7) outbreaks of this disease were investigated and 3,184 birds were protected with fowl-pox vaccine obtained from the Indian Veterinary Research Institute, Mukteshwar. Biological tests were undertaken for differential diagnosis from Nutritional Roup in a few outbreaks in which only the oculo-nasal form of the disease was encountered. However, all these outbreaks proved to be of Fowl pox. The use of fowl-pox vaccine in actual outbreaks gave variable results depending upon the form of disease prevailing and the number of birds affected at the time of vaccination.

(b) *Bacterial diseases.*

(i) *Tuberculosis.*—One thousand one hundred and sixty (1,160) fowls and one hundred and forty-six (146) ducks and geese were tested with concentrated avian tuberculin (I.V.R.I.) for tuberculosis. Fifteen (15) fowls (1.2 per cent.) showed positive reaction, while nine (9) showed doubtful reaction.

(ii) *Fowl-cholera.*—One out of five suspected outbreaks of Fowl Cholera was confirmed on biological test. The diagnosis was, however, not confirmed by the Indian Veterinary Research Institute as the culture sent to that Institute proved to be contaminated on arrival.

(iii) *Salmonellosis.*—Heavy mortality amongst chickens between 0 and 12 days of life was encountered on a farm near Poona. Organisms belonging to the *Salmonella* group were isolated from the heart-blood and yolk

sacs of the affected chickens. Further typing of this organism is in progress at the Indian Veterinary Research Institute.

Rapid whole-blood agglutination tests of layers with antigen prepared from the locally isolated motile strain of *Salmonella* organism indicated that the infection gets automatically cleared after a certain interval.

(iv) An outbreak that caused heavy losses amongst ducklings at a farm near Poona was investigated. A *Salmonella* organism belonging to group E of the Kauffmann-White Scheme for grouping *Salmonellas* was isolated from the heart blood of these ducklings. "Sulphamezathine" in drinking water did not prove effective in controlling the outbreak.

#### (c) Protozoan diseases.

(1) *Coccidiosis*.—Coccidia of the species *E. tenella*, *E. mitis* and *E. precox*, were found to be responsible for four outbreaks of coccidiosis investigated amongst chickens. "Sulphamezathine" (I. C. I.) and "Suluthiazole" (M & B) were found to be effective in controlling the outbreaks.

(ii) Smears made from faecal samples and scrapings from the proventriculus of chickens that had died as a result of an obscure outbreak showed *Trichomonas* in them. This finding was confirmed by the Indian Veterinary Research Institute.

#### (d) Parasitic diseases.

(1) "Phenothiazine" and *Oleum Chenopodium* were tried in cases of Nematode infestation and the latter drug was found to be more efficacious than the former.

Gammoxene smoke-generators (ICI) were found to be effective in eradicating red mites from the type of poultry houses met with in many Deccan villages in this State.

### (IV) Scheme for Investigation of Mastitis.

30. Some investigation into this problem had been carried out in the State during previous years by the Disease Investigation Officer and the Bacteriologist at the Bombay Veterinary College and some valuable data had been collected. However, no large-scale investigations into the incidence of the disease had been carried out. In view of the great economic importance of the disease, however, a special scheme was drawn up and submitted to the Indian Council of Agricultural Research. Under this scheme a special Graduate Assistant has been appointed only to investigate this problem. He works under the general supervision of the Bacteriologist.

The scheme was approved by the Indian Council of Agricultural Research and sanctioned by the Bombay Government for a period of three years from 1st April 1950. It is subsidised to the extent of 50 per cent. of the recurrent expenditure by the Indian Council of Agricultural Research. The expenditure on the Scheme amounted to Rs. 1,907-15-0 during the year 1950-51 (Table XIII-E).

The work under the Scheme actually started on the 2nd March 1951, with a survey of the incidence of the disease at the dairy farm of the Gorakshak Mandal, Kandivali, which maintains a herd of Gir cows. No substantial progress could, however, be made during the short period of one month for which the scheme ran during the period under report.

Two hundred and forty (240) samples were sent from cases of mastitis in various parts of the County. Sixty one samples were examined in the Bacteriological Laboratory outside the sentence. Of these 118 were found to be due to *Streptococci*, 11 to *Staphylococci*, 71 to *C. pyogenes* and the rest were due to other organisms.

#### (V) Cattle Dipping Tanks.

50 Government dipping tanks and spraying plants.—Under the Scheme for the Control of Ticks live cattle dipping tanks at Turkewadi (District Belgaum), Tandulwadi, District Belgaum, Devgiri (District Dharwar), Benkatti (District Belgaum) and Zari Sangvi (District Nasik) and two spraying plants are maintained by Government. However, during the year under report the spraying plants proposed to be installed at the Veterinary Dispensaries at Sisi and Amiyal could not be installed for various reasons.

Of the two tanks at Jamkhambli and Savalgir in Bijapur District taken over by the Department on the merger of the Joint-hand State, the latter did not function due to the non-availability of Cooper's cattle dip due to import restrictions.

The tank at Hositti in Dharwar District constructed by the local people through popular contributions and subsidies from the Rural Development Board, Dharwar, and this Department was taken over for maintenance by the Department permanently with Government approval and dipping operations were started during January of the year under report.

*Other tanks.*—The tank at Chopda belonging to the local Taluka Development Association, which had been maintained by Government since 1944 at the request of the Association was handed back to the Association towards the end of the year. The dipping operations at the tank, however, continued to be conducted by the local Veterinary Assistant Surgeon.

Government sanctioned grant-in-aid to the Cattle dipping tanks at Pimple, Dongar-Sangvi and Umberkhede maintained, respectively, by the Taluka Development Association, Jalgaon, the Taluka Development Association, Yawal, and the Shri Shivar, Umberkhede Multi-purpose Society, Umberkhede, (East Khandesh). The operations at all the above tanks were carried out by the Veterinary Assistant Surgeons of the Department.

The work carried out at the above mentioned tanks during the year was as follows :—

Serial No.	Place of operation.	No. of cattle and buffaloes dipped/sprayed.		Dipping fluid used.
		1950-51	1949-50	
1	Turkewadi .. ..	1,368	650	Cooper's Cattle Dipping Fluid.
2	Tandulwadi .. ..	1,353	1,317	
3	Devgiri .. ..	5,852	3,841	
4	Benkatti .. ..	1,428	3,384	

Serial No.	Place of operation.	No. of cattle and buffaloes dipped/sprayed.		Dipping fluid used.
		1950-51	1949-50	
5	Kazi-Sangvi	..	497	600
6	Janakhandi	..	510	423
7	Savalgi	..	....	213
8	Hosritti	..	231	....
9	Chopda	..	722	1,263
10	Pimple	..	3,042	(Not available.)
11	Dongar-Sangvi	..	874	1,002
12	Umberkhede	..	478	970

The work turned out by the majority of the tanks was satisfactory and no untoward results were noticed. The decline in the number of animals dipped at Savalgi, Benekatti and Umberkhede was due to the non-availability of Cooper's Cattle Dipping fluid, a proprietary foreign preparation, due to import restrictions. The increased use of Hexyclan powder for the destruction of ticks was also responsible for the decrease in work at the Cattle Dipping Tanks.

*Treatment with Hexyclan powder.*—The destruction of ticks by the use of Hexyclan powder was continued during the year under report and a total of 1,49,223 animals (cattle 1,19,034, buffaloes 15,075 and others 11,064) was treated with this preparation as against 47,127 (Cattle 36,532, Buffaloes 6,989 and others 3,556) during the year previous.

The field staff of the Livestock section was also supplied with dusters and Hexyclan powder. It treated 10,096 animals (cattle 7,065, buffaloes 631 and others 2,400) during the year under report.

The treatment of animals with Hexyclan Powder due to its simplicity, ease of application, etc., has proved very popular with the cultivators, as will be seen from the progressive increase in the number of cases treated from year to year.

31. *Parasitologist, Bombay State.*—Dr. S. R. Rao, M.Sc., D.Sc., continued to hold charge of the post of Parasitologist throughout the year under report. He travelled 4,451 miles by rail and 40 miles by road. He visited the slaughter-houses at Bandra, Arthur Road, Thana, Hubli and Viramgam; the Panjarpoles and Goshalas at Raita and Dombivli; the Dairy farms at Kandivli, and at the Poona and Dharwar Agricultural Colleges; the Chharodi Farm and tanks at Devikoppa and Mudkihonalli (District Dharwar). He carried out investigations into helminthic, entomological and protozoan infections of livestock. In addition, he delivered lectures in Parasitology to the Third Year students at the Bombay Veterinary College, and examined 2,798 specimens received in his laboratory and gave suitable advice regarding treatment and control measures.

He read a paper entitled "Rhinosporidiosis in Equines in Bombay State" at the Indian Science Congress held at Bangalore and wrote a note on "The Organization of Helminthological Research in India from the Practical and Economic point of view" for the 9th meeting of the Animal Husbandry Wing of the Board of Agriculture and Animal Husbandry in India held at Izatnagar.

Cases of Schistosomiasis in dogs which appear to be the first cases of their kind recorded in this State were encountered by the Parasitologist among dogs admitted to the Bai Sakarbai Dinshaw Petit Hospital at Bombay. A dog was admitted to the hospital for debility and examination of the faeces revealed the presence of Schistosome eggs which seemed to be different from those of *S. incognatum*, the parasite found in dogs. However, the owner did not agree to further examination of the dog and so the exact identity of the parasite could not be established. Two similar cases were recorded afterwards.

A case of Rhinosporidiosis in an equine was recorded for the first time by the Parasitologist in this State.

An additional staff sanctioned by Government consisting of a Graduate Assistant, a Stockman and a field assistant, enabled the Parasitologist to investigate and examine 6,969 snails belonging to the species, *Indoplanorbis exustus* and *Limnaea acuminata*, from ponds in the Bombay Suburbs.

## VI. Diseases of Livestock.

32. During the year under report a total of 5,404 outbreaks of contagious and infectious diseases was reported and attended as against 7,048 during the year previous.

The outbreaks reported and attended were :—

Rinderpest 1,186, Haemorrhagic Septicæmia 1,721 Black Quarter 1,391, Anthrax 124, Foot and Mouth Disease 588, other diseases 394. The total mortality was 54,879 as against 29,457 during the year previous. The increase in deaths was mainly among sheep and goats, (26,998) among which contagious diseases occurred with greater virulence. Rinderpest which is rare among sheep and goats broke out among these animals in a severe form during the year under report and took a toll of 16,827 animals.

### DISEASES OF EQUINES.

33. (i) *Glanders*.—Three deaths from this disease were recorded (2 in Poona and 1 in Bijapur District) as against nil during the year previous.

(ii) *Surra*.—Three hundred and thirty-two (332) cases of Surra were reported and 178 were confirmed microscopically. Of the 178 confirmed cases, 176 were treated and 102 were cured. The remainder of the confirmed cases were either destroyed or they died before treatment could be undertaken.

Of the unconfirmed cases, 99 were treated and 95 were cured.

(iii) *Dourine*.—No cases of this disease were recorded.

- (iv) *Anthrax*.—No deaths from this disease were recorded.
- (v) *Other Contagious and Parasitic diseases*.—Ten deaths from Contagious Pleuro-Pneumonia, one from Rabies, 1 from Tetanus and 3 from other causes were recorded under this head during the year under report.

#### DISEASES OF BOVINES.

34. (i) *Rinderpest*.—One thousand one hundred and eighty-six (1,186) outbreaks of this disease were attended as against 200 during the year previous. The disease prevailed throughout the State except in the Kolaba, Banashankar and Sabarwadi Districts, from which no outbreaks were reported. It was particularly widespread in the Nasik, West Khandesh and East Khandesh Districts, from which alone a total of 675 outbreaks was reported. The mortality was 7,633 (Cattle 4,116 and buffaloes 3,492).

(ii) *Hæmorrhagic Septicæmia*.—One thousand seven hundred and twenty-one (1,721) outbreaks of this disease were attended during the year as against 1,674 during the year previous. The mortality was 10,456 (Cattle 3,609 and buffaloes 6,847). This disease was reported more or less from all the Districts of the State but the Districts of Bijapur, Belgaum, Dharwar, Kolhapur and Panch Mahals were widely affected.

(iii) *Foot and Mouth Disease*.—Five hundred and eighty-eight (588) outbreaks of this disease were attended as against 2,376 during the year previous. The mortality was 23 (Cattle 16 and buffaloes 7).

(iv) *Black Quarter*.—One thousand three hundred and ninety-one (1,391) outbreaks of this disease were attended as against 2,314 during the year previous. The mortality was 5,702 (Cattle 5,010 and buffaloes 692) as against 10,812 during the year previous. The Gujarat tract was practically free from this disease. The Districts of Belgaum, Sholapur, Bijapur, Dharwar, South Salara and Kolhapur were widely affected.

(v) *Anthrax*.—One hundred and twenty-four (124) suspected outbreaks of this disease were attended during the year, of which 16 were confirmed. The mortality was 472 (Cattle 372 and buffaloes 100).

(vi) *Surra*.—Two hundred and sixty-five (265) deaths were recorded from this disease as against 230 during the year previous.

(vii) *Other Contagious and Parasitic diseases*.—Three hundred and sixteen (316) deaths were recorded under this head.

#### DISEASES OF OTHER ANIMALS.

##### (a) Diseases of Sheep and Goats.

35. (i) *Anthrax*.—This disease was reported in Sheep as well as in Goats and the total number of deaths was 935 (Sheep 805 and goats 130).

(ii) *Sheep and Goat-Pox*.—Eight hundred and fifty-six (856) deaths were recorded in Sheep and 46 among goats from this disease.

(iii) *Pleuro-Pneumonia*.—The number of deaths recorded from this disease in Sheep and goats was 393 and 124, respectively.

(iv) *Foot and Mouth Disease*.—No deaths were recorded from this disease.

(v) *Scabies*.—No deaths were recorded from this disease.

(vi) *Other Contagious and Parasitic diseases*.—Twenty-one thousand two hundred and sixty-nine (21,269) deaths among sheep and 3,375 among goats were recorded from other contagious and parasitic diseases. The

deaths recorded were mainly due to Rinderpest in sheep and goats in South Satara, North Satara, Belgaum, Kolhapur, Bijapur and Dharwar Districts.

(b) *Dogs*

36. (i) *Rabies*.—There were 22 deaths in dogs from this disease.

(ii) *Other Contagious and Parasitic diseases*.—Three deaths were recorded under this head during the year.

(c) *Camels*.

37. No case of contagious disease among camels was recorded during the year.

(d) *Cats*.

38. No deaths from contagious diseases were recorded in cats.

(e) *Poultry*.

39. (i) *Fowl Cholera*.—Forty-seven (47) fowls died of this disease during the year as against 66 during the year previous.

(ii) *Ranikhet disease*.—Two thousand five hundred and forty-six (2,546) deaths were recorded from this disease in fowls during the year as against 1,600 during the year previous.

(iii) *Fowl Pox*.—Thirty-eight (38) deaths were recorded from this disease.

(iv) *Other diseases*.—Two hundred (200) deaths were recorded under this head during the year.

PREVENTIVE MEASURES.

40. *Rinderpest*.—Five lakhs seven thousand four hundred and fifty-nine (5,07,459) animals were protected against this disease in the affected and clean villages during the year either by Serum-alone, Serum-simultaneous or Goat-Virus method as against 4,16,360 during the year previous. This number includes the vaccinations carried out under the Scheme for Immunization of cattle functioning in the Bombay City and Bombay Suburban District and also under the Scheme for immunization of cattle against Rinderpest and Black Quarter operating in the Sangola and Pandharpur Talukas of the Sholapur District. Of the protected animals, 1,437 are reported to have died. The largest number of animals protected was in the Nasik District, viz., 1,22,948. Eleven thousand one hundred and thirteen (11,113) animals were protected in the Satpura range area and 49,949 in the Bombay City and Suburban Districts. In the Nasik, West Khandesh and East Khandesh Districts, where the outbreaks were widespread, 1,62,212 animals were protected in actual outbreaks besides 1,07,865 in clean villages. As already stated in paragraph 35, (vi) Rinderpest occurred in Sheep and Goats mainly in the Sheep Breeding tract. As many as 41,156 animals were protected to control the further spread of the disease.

41. *Hæmorrhagic Septicæmia*.—Four lakh thirty-four thousand seven hundred and twenty (4,34,720) animals were protected against this disease either by vaccination or Serum-alone method as against 3,95,861 during

the year previous. Of those protected, only 128 died of the disease. Two lakh fifty-three thousand eight hundred and eighty-nine (2,53,889) animals were protected in the Districts of Bijapur, Dharwar, Kolhapur, Belgaum and Panch Mahals alone as these districts were badly affected. The largest number of animals protected was in the Bijapur District, viz., 69,806.

42. *Black Quarter*.—Three lakh sixty-seven thousand six hundred and seventy-eight (3,67,678) animals were protected against this disease as against 4,26,010, during the year previous. There were only 23 deaths among the protected animals. The disease was restricted to a limited area. As many as (2,78,214) vaccinations were carried out in the tract comprising the districts of Sholapur, Belgaum, South Satara, Kolhapur, Dharwar and Bijapur, which were widely affected. The largest number of animals protected was in the Sholapur District, viz., 65,509.

43. *Anthrax*.—Twenty-one thousand four hundred and thirty-nine (21,439) animals were protected against this disease as against 15,947 during the year previous. There were 125 deaths among the animals protected. The largest number of animals protected was in the Dharwar District, viz., 6,319.

44. *Sheep Pox*.—Ten thousand and one (10,001) animals were protected against this disease as against 4,450 during the year previous. Of the protected, 135 were reported to have died.

45. *Goat Pox*.—Figures of vaccination against this disease are not separately available and stand included in the figure of 10,001 reported in the preceding paragraph.

46. *Fowl Pox*.—Seven hundred and seventy-eight (778) fowls were protected against this disease. None of the vaccinated birds died. This number is exclusive of the number protected by the Assistant Disease Investigation Officer (Poultry), viz., 3,184.

47. *Fowl Cholera*.—Eight hundred and eighty-three (883) birds were protected against this disease as against 117 during the year previous. No deaths were recorded among the protected birds.

48. *Ranikhet Disease*.—Thirty thousand and nine hundred (30,900) birds were protected against this disease as against 19,996 during the year previous. Of those protected 28 died. This number is exclusive of that protected by the staff of the Ranikhet Disease Vaccine Laboratory, Poona, and the Assistant Disease Investigation Officer (Poultry) viz., 1,665 and 5,300, respectively.

49. *Immunization of Milch Buffaloes in the Bombay City and Bombay Suburban District*.—This work was continued under the supervision of the District Veterinary Officer, Bombay Suburban District. Three Veterinary Inspectors assisted by nine Stockmen and seven attendants carried out the work in the Bombay Suburban District. The work in the Bombay City continued to be carried out by the Veterinary staff of the Bombay Municipality. Twenty-three thousand four hundred and ten (23,410) animals were protected against Rinderpest in the Bombay Suburban District and 26,539 in the Bombay City during the year under report.

50. *Scheme for the Immunization of Cattle against Rinderpest and Black Quarter in the Sangola and Pandharpur Talukas.*—Eight (8) Stockmen and 8 attendants continued to work under the Scheme. The work done by the staff has been included in the section on 'Preventive Measures' under the headings "Rinderpest" and "Black Quarter".

51. The rules framed under the Bombay Animal Contagious Diseases (Control) Act, 1948, are still under scrutiny by Government. It is proposed to apply certain Sections of the Act to specific areas in the event of wide spread outbreak of diseases scheduled under the Act to prevent their further spread. The provisions of the said Act, however, were not made applicable to any area during the year under report.

## VII. Hospitals and Dispensaries.

52. Two hundred and fifty-two (252) Veterinary Hospitals and Dispensaries included nineteen (19) branch Veterinary Dispensaries were working at the beginning of the year, of which 141  
 Table III including 18 branch Veterinary Dispensaries were operating as Government Institutions and 111 including one branch Veterinary Dispensary were maintained by Local Bodies.

During the year under report, one full-fledged Veterinary Dispensary at Rajapur in Ratnagiri District and one branch Veterinary Dispensary at Ichalkaranji in Kolhapur District were opened as Government Institutions.

The total number of Veterinary Dispensaries including branch Veterinary Dispensaries operating at the end of the year thus stood at 254, of which 143 were Government-owned and 111 maintained by Local Bodies.

53. *Work at Head Quarters.*—The total number of patients treated at Veterinary Hospitals and Dispensaries was 4,31,427 as against 4,10,526 during the year previous. Of these 4,092 were inpatients and 426,735 outpatients. In addition 1,45,481 animals not brought to the dispensaries were supplied with medicines as against 1,11,655 during the year previous. The number of castrations performed was 74,222 as against 66,760 during the year previous. The average daily attendance at all these Veterinary Dispensaries taken together was 18.26. The highest attendance was 71.00, viz., at the Veterinary Hospital at Ahmedabad.

54. *Work in Villages.*—The number of cases treated on tour was 97,161 (of which 70,491 were of non-contagious diseases and 26,670 of contagious diseases) as against 2,21,759 during the year previous.  
 Table IV In addition, 14,363 castrations were performed as against 31,395 during the year previous. The decrease in the amount of work done on tour was due to the suspension of ordinary touring by the subordinate staff from June to the end of the year owing to reduction in the travelling allowance grants of the Department due to financial stringency. The staff toured during the period mainly in connection with control of epizootics or for immunization of cattle against contagious diseases.

55. *Dispensary Buildings.*—The construction of the Veterinary Dispensaries at Khed, Shedbal, Mahud, Pardi, Kopargaon and Varnama

was completed during the year. The construction of no new Veterinary Dispensary buildings was undertaken during the year under report.

56. *Village Improvement Work*.—All the members of the staff continued to take part in activities connected with this work. During their visits to villages they gave practical demonstrations and lectures, distributed leaflets on various diseases and explained to the assembled villagers and village-officers the importance of reporting outbreaks of contagious diseases promptly. Their movements however, were much restricted due to the percentage cut in travelling allowance grants of the Department due to which visits to fixed centres for treatment of cases and touring for propaganda were suspended from June to the end of the year.

*First Aid Veterinary Medicine Chests*.—First-aid veterinary medicine chests have been placed in certain villages for the treatment of ordinary ailments. There are 107 such chests in the Districts. These chests have been kept in the custody of respectable men of the respective localities and they have been given instruction in the use of simple medicines. The contents of the chests are replenished by the Divisional Veterinary Officers whenever necessary.

57. *Prevention of Cruelty to Animals Act*.—Three hundred eighty-six (386) cases were admitted to the mofussil infirmaries under the Prevention of Cruelty to Animals Act, and convictions were obtained in 322 cases. The Hospitals maintained by the Societies for the Prevention of Cruelty to Animals at Ahmedabad and Nasik continued to function.

58. *Inspection of animals tendered for slaughter at Slaughter Houses*.—Under the Order issued under section 4 of the Bombay Essential Commodities and Cattle (Control) Act, 1946, the local Veterinary Assistant Surgeons performed the duties of inspection of animals tendered for slaughter at the slaughter houses at Ahmedabad, Godhra, Kapadvanj, Broach, Dhulia, Malegaon, Poona, Ahmednagar, Sholapur and Belgaum. At Hubli and Surat, the Municipal Veterinary Officers continued to carry out this duty on behalf of Government.

The inspection work at Kurla continued to be carried out by the Veterinary Inspector of the Bombay City and Harbour Veterinary Department. Shri G. H. Joshi, Assistant Professor, Bombay Veterinary College, assisted by a Veterinary Inspector of the Bombay City and Harbour Veterinary Department, continued to carry out the inspection work at Bandra. In all a total of 1,34,449 cattle and buffaloes was inspected, of which 7,726 were not passed being suitable for work, breeding, etc.

The question of enforcement of the Bombay Animal Preservation Act, 1948, which has the same object as the Order with slight variations is still under the consideration of Government.

In accordance with the orders contained in Government Resolution, Revenue Department, No. 3520/39, dated the 4th December 1940, statistics regarding the number of animals slaughtered at the recognised slaughter houses were collected. Table VIII gives the figures for the period, from the 1st July 1949, to the 30th June 1950.

Table VIII

59. *Fairs and Shows.*—Fairs and shows were attended by the Departmental Cattle as usual. Government has sanctioned a special grant for the purpose charts and posters bearing on the activities of the Animal Husbandry Department and diseases of cattle were exhibited at the important Shows and Fairs held in the State during the year under report.

#### VIII. Animal Husbandry Activities.

60. Scientific research into the problems of breeding, feeding and management of cattle, sheep and poultry and extension of the successful results or such work to all the Districts is the backbone of the main lines of work of the Animal Husbandry Sections. Research work is concentrated mainly at the Government Cattle Farms at Bankapur and Tegur, at the Sheep Breeding Research Station, Poona with its sub-stations in the Districts and the Government Poultry Farms at Kirkee, Dhulia, Dharwar and Kerdwar. The extension work has been considerably developed by the Livestock Section during recent years and has been further supplemented by non-official agencies, whose valuable co-operation, especially in the field of cattle improvement, has been secured in many areas. The District Feral Development Boards are taking an increasing interest in Livestock development work in areas under their control. Under Post War plans, a number of cattle, sheep and poultry farms have been established, both for research and extension work, and Supplementary Breeding Centres have been established for extending rapidly the work of cattle improvement throughout the State.

#### LIVESTOCK (CATTLE BREEDING) SECTION

61. Shri D. B. Kolhe, B. Ag., A.I.D.L., held charge of the post of Livestock Expert to Government throughout the year. Shri L. V. Rishi, G.B.V.C., Shri R. K. Patil, B.Sc. (Agri.), Shri S. P. Dhamale, B.Sc. (Agri.), M.Sc. (Iowa) and Shri S. G. Futane, B.Ag., M.Sc. (Michigan) continued as Divisional Inspectors of Cattle Breeding, Baroda, Nasik, Pandharpur and Dharwar, respectively, throughout the year.

Shri D. B. Kolhe travelled 7,582 miles by rail and 2,177 miles by road and visited 17 Districts for inspection of livestock activities and for giving guidance to the staff. He visited or inspected 38 Institutions and attended 5 cattle shows and acted as a judge. During the year he attended 9 meetings and conferences in connection with livestock work.

Shri L. V. Rishi travelled 7,654 miles by rail and 1,678 miles by road. He visited 115 villages in his division, 11 Supplementary Breeding Centres, the Bakrol Farm, the Makarpura Dairy, the Rabari and Bharwad Colonies at Pratapnagar and Bellasar, the Rabari Settlement at Kadi, the areas of the Gir Cattle Improvement Scheme, Dhandhuka, District Ahmedabad, and the Buffalo Improvement Scheme, District Kaira. 11 Goshalas and Panjrapoles, 2 Private Cattle Breeding Farms, the Institute of Agriculture, Anand, the Farm at Bidaj and two Sarvodaya Centres. He attended meetings of three Cattle Breeding Societies. He attended five cattle shows, judged cattle at the Khillar Cattle Show, Mahud, District Sholapur, and attended some cattle markets. He visited the

Sheep Breeding Farm at Patan and toured in the areas of the merged States for carrying on propaganda in connection with livestock improvement.

Shri R. K. Patil travelled 7,549 miles by rail and 2,779 miles by road. He visited 47 villages in his division, 5 supplementary Breeding Centres, 6 Cattle Breeding Farms (1 Government, 4 Subsidised by Government and 1 private), 9 Goshalas and panjrapoles and the Sarvodaya Kendra at Khandbara. He organised 4 Cattle Shows and judged cattle at 3 other shows.

Shri S. P. Dhamale travelled 5,403 miles by rail and 2,208 miles by road, visited 84 villages, 9 Supplementary Cattle Breeding Centres, the Gir Cattle Farm, Kopargaon, the Ranjani Farm, 4 Sheep Breeding Farms, 3 Poultry Farms, 3 Goshalas and Panjrapoles and the Gopalak Sangh, Sholapur. He also visited the Kandivali and Betegaon Farms and the Ashram Goshala, Sabarmati, in connection with the purchase of cattle under the Goshala Development Scheme. He organised 6 Cattle Shows and judged cattle and attended 4 other Cattle Shows.

Shri S. G. Futane travelled 1,555 miles by rail and 5,336 miles by road. He visited 130 villages, various Supplementary Cattle Breeding Centres in his division, the Cattle Breeding Farms at Bankapur, Tegur and Raibag, 2 Poultry Farms, 2 Sheep Breeding Farms, and 4 Goshalas and Panjrapoles and attended 5 Cattle Shows.

#### RESEARCH WORK.

62. The work of improving the herd of Amritmahal Cattle at the Government Cattle Farm, Bankapur, was continued. The plan of improvement consists chiefly in selective breeding for standardization of type, regularity of calving and early maturity. During the year under report the small Gir herd which had been maintained at this farm since 1941-42 was removed and 31 animals from this herd were located in the Ahmednagar District for the improvement of village cattle. In addition, five (5) Bulls, 6 cows and heifers with 2 male calves of the Amritmahal breed were issued to cultivators during the year under report from this Farm.

The chief object of the Government Cattle Breeding Farm, Tegur, is to evolve a suitable dual-purpose animal for the Malnad and Konkan tracts. The farm had in the beginning Dangi and Nimar breeds of cattle, of which the latter having been found unsuitable for the area were removed. The farm also provides facilities for experimental work in connection with improvement of fodders and grasses and investigations into these problems were also continued. Two bulls, 9 cows and heifers with 2 calves of Dangi breed were supplied to the cultivators for improvement of village cattle, and 80 animals of the Nimari breed were sold to the Taluka Development Association, Jalgaon, and other cultivators for cattle improvement work.

Under Post War-Reconstruction Scheme No. 33 a Gir Cattle Breeding Farm has been established at Kopargaon in the Ahmednagar District with the object of supplying animals of this dual-purpose breed to the

sugar-cane growing areas of the Deccan. Under the same scheme, with the object of developing a dual-purpose animal for cattle improvement work in the Konkan, a Dangi Breeding farm has been established at Igatpuri in the Nasik District.

During the year 4 breeding bulls and 3 breeding cows of the Gir breed from the Kopargaon Farm were supplied to the villages for improvement work. The average annual milk production per cow at the Kopargaon farm worked out at 2,482 lbs. and the fat percentage at 4.7 during the year under report.

Six (6) young bulls, 5 cows with 1 bull calf and 1 heifer of the Dangi breed were supplied to cultivators from the Igatpuri farm for the improvement of village cattle. The average annual milk yield for this breed at the Igatpuri farm worked out at 1,682.3 lbs.

Consequent on the merger of the Baroda State with the Bombay State the Cattle Breeding Farm at Bakrol came under the control of this Department. The object of this farm is to improve the local breeds of cattle and buffaloes, viz., the Kankrej and Surti, and to improve the supply of pure milk to Baroda City. The average milk yield of Kankrej cows per lactation period of 259 days was 2,252 lbs. while that of Surti buffaloes was 2,605 lbs. per lactation period of 313 days. The total milk yield at this farm during the year was 1,21,685 lbs. Twenty-two (22) Kankrej bulls and 36 Surti buffalo bulls were supplied to the villagers for cattle improvement.

The Ranjani kuran belonging to the former Sangli State has been retained under the management of this Department and the small herd of Black and White Hanam cattle has been continued there for evolving a suitable type of animal for the South Satara District. The herd was in a semi-wild condition when the Kuran was taken over but efforts are being made to tame the same.

Consequent on the merger of the Kolhapur State with Bombay the Cattle Breeding Farm at Raibag came under the control of this Department. The object of this Farm is to breed Khillar cattle. The cattle at this farm have been maintained under semi-range conditions for the last 50 years and they are semi-wild. During the year under report some of the animals were tamed and eighteen (18) young bulls and 33 heifers were issued from this farm for improvement of village cattle.

The Gir improvement work was continued by (1) the Bombay Gowrakshak Mandali, Kandivali and Betegaon, (2) the Nathubhai Lalji Charity Trust Gowshala, Mulund, (3) the Gopalak Sangh, Sholapur, and (4) the Sabarmati Ashram Goshala, Ahmedabad.

The breeding of the Nimar breed of cattle was continued by (1) the Taluka Development Association, Jalgaon, (2) the Taluka Development Association, Jamner, and (3) Dr. V. H. Patil of Patilwadi in West Khandesh.

The Institute of Agriculture, Animal Husbandry and Dairying, Anand, continued the work of improving the Kankrej breed at Anand and Chharodi.

Four (4) Dangri cows and 1 Dangri bull and 4 local cows were supplied to the Gopuri Institute, Kankavali, District Ratnagiri, with a view to testing the possibilities of these animals under konkan conditions.

#### EXTENSION WORK.

63. *Premium Bull Scheme.*—The object of this Scheme is to improve village cattle by grading them up with pedigreed bulls. Under this Scheme a cultivator who has an aptitude for cattle breeding can get a breeding bull in one of the two following ways :—(1) On half cost system (half the cost to be met by him and half by Government). In this case no maintenance charges are paid. (2) The owner paying the full cost himself and the Government paying maintenance charges at a certain fixed rate per month. At present the maintenance charges are fixed at Rs. 12 per month and are paid for three years. Besides the above 2 systems bulls can also be purchased from loans advanced by the Livestock Expert to Government or from the District Livestock Advance Fund placed at the disposal of the Collectors and Chairmen, District Rural Development Boards. As a result of the working of this Scheme there has been a great demand for the supply of premium bulls. The number of premium bulls working in the State on 31st March 1951 was 2,456, an increase of 80 bulls over the number for the previous year. The distribution of premium bulls district-wise under various systems is shown in Table VI-A. In addition a number of buffalo bulls are maintained. Table VI-B shows the position in respect of buffalo bulls during 1950-51.

The standard of cattle in the villages in which this scheme is operating has considerably improved in respect of (a) early maturity, (b) regularity of calving, (c) better size and (d) higher milk yield as a result of the operation of this Scheme. The standard of excellence achieved can be gauged from the exhibits that are presented at the Regional and the All-India Cattle Shows.

64. *Premium Cow Scheme.*—This Scheme was introduced with the assistance of the District Rural Development Boards in Poona, Sholapur, Satara and Surat Districts in order to enable the poorer classes to earn their livelihood and at the same time to contribute towards the improvement of cattle. At present there are schemes for ameliorating the condition of the Backward Classes in the Thana and West Khandesh Districts and for Harijans in the Sholapur and Satara Districts. Cows are also issued under Post-War Reconstruction Scheme No. 32 for establishing Supplementary Cattle Breeding Centres. Besides, premium cows are supplied to deserving farmers by advancing loans from the Personal Ledger Account at the disposal of the Livestock Expert to Government.

Since the Scheme for the free supply of cows to the Backward Classes in the Thana and West Khandesh Districts did not prove a success inasmuch as the animals were neglected by those communities, it has been continued in a modified form and now the object is to grade up the village stock by the use of improved bulls.

In the Sholapur District premium cows are supplied free of cost to the Harijans. In the Satara District premium cows are supplied to Harijans at 2/3rd cost to Government and 1/3rd to the beneficiary. In the Surat District, however, premium cows were supplied to the cultivators at 1/2 cost by the Rural Development Board.

The number of premium cows in the State at the end of the year was 4,705 as against 4,777 in the year previous. The number of premium cows issued under the various schemes in the different Districts is shown in Appendix A.

65. *Registration of pure-bred cattle.*—The number of pure-bred animals of the various breeds registered in the State during the year was as under :—

Name of the Breed	Number of animals registered.		Total
	Males	Females	
1. Khillari	399	644	1,043
2. Amritmahal	606	718	1,324
3. Gir	64	287	351
4. Nimar	42	50	92
5. Dangi	40	22	62
6. Kankrej	201	549	750
7. Krishna Valley	26	88	114
8. Pandharpuri (Buffalo)	9	—	9
Total	1,387	2,358	3,745

66. *Livestock Improvement Act.*—This Act provides for the compulsory castration of all scrub bulls in those villages in which approved or licensed bulls have been stationed. The number of villages where the Act has been applied is 218. Proposals for the application of the Act to 83 more villages are under the consideration of Government. The number of villages in which the Act was in operation during the year under report is shown district-wise in Appendix B.

67. *Cattle Shows and Rallies.*—The organization of cattle shows and rallies in the districts is one of the important functions of the Livestock Section. Shows and rallies were held during the year under report as follows :—

Category.	No.	Breed.
1. One-day cattle rallies and other shows.	60	Different breeds.
2. Breed Shows	2	(1) Khillar show at Mahul. (2) Dangi Show at Rajur.
3. Cattle Shows organized in conjunction with Agricultural Shows by the District Rural Development Boards.	19	All Regional Breeds. The main shows held were.....

Category.	No	Breed.
	At	District.
	1. Nasik	.. Nasik.
	2. Pandharpur	.. Sholapur.
	3. Jayasingpur	.. Kolhapur.
	4. Bramhapur	.. Satara North.
	5. Dhari	.. Amreli.
	6. Vyara	.. Surat.
	7. Lunawada	.. Panchmahals.
	8. Hosriti	.. Dharwar.
	9. Kopergaon	.. Ahmednagar.
	10. Gopuri	.. Ratnagiri.
	11. Dhuna.	.. Banaskantha.
	12. Bailhongal	.. Belgaum.
4. All-India Cattle Show .	1 At Hissar. The Taluka Development Association, Jalgaon, exhibited 8 Nimar cattle and won 4 prizes.	

68. *Cattle Breeders' Societies.*—The following non-official Cattle Breeders' Societies functioned during the year :—

Serial No.	Name of the Breed Society.	Year when organized	Membership.	Annual (Government subsidy.
				Rs.
1	The Kankrej Cattle Breeders' Society, Sanand, District Ahmedabad.	1939	121	1,500
2	The Khillar Cattle Breeders' Association, Mahud, District Sholapur	1942	980	820
3	The Dangi Goseva Sangh, Rajur, District Ahmednagar.	1945	137	1,084
4	The Khillar Cattle Breeders' Association, Karad, District North Satara.	1947	369	1,200
5	The District Livestock Improvement Association, Dharwar.	1950	224	1,200

These societies were useful (1) for extending the work of cattle improvement in villages by organizing cattle shows, (2) for improving and developing the cattle by approved methods of breeding, feeding and management, and (3) for extending the breeds by supplying pure-bred pedigreed stock to neighbouring districts.

69.—*Special Development Schemes.*—(a) *Scheme for the Development of Dangi Cattle.*—The object of the Scheme is to secure the co-operation of the semi-nomadic Dangi breeders in improving the Dangi cattle and rearing selected male calves. Four hundred and fifty (450) villages in the Dangi areas in the districts of Nasik, Thana and Ahmednagar, have been surveyed and 112 have been found to have good Dangi cattle. The

co-operation of 99 Dangi cattle breeders and 110 cultivators has been secured in the breeding work. The number of Dangi Premium Bulls working at the close of the year was 187.

(b) *Re-modelled Kankrej Cattle Improvement Scheme, Sanand, District Ahmedabad.*—The main objectives of the scheme were :—

(i) To improve the economic condition of cattle owners by enabling them to assess the economic value of their animals.

(ii) To arrange for the economic feeding of the animals.

(iii) To utilize the most productive animals for breeding and thus to secure higher prices for the progeny.

This Scheme was financed by the Indian Council of Agricultural Research and the Government of Bombay on 50 : 50 basis upto 31 March 1949. The Government of Bombay, however, tentatively decided to take over the Scheme with effect from 1st April 1949 and directed that the possibilities of organising the Scheme on a co-operative basis should be examined. Since this matter was under consideration, the Scheme was continued by Government on the existing basis and an annual grant-in-aid of Rs. 1,500 was sanctioned to the Kankrej Cattle Breeders' Society, Sanand.

(c) *Scheme for the supply of cows and bulls to approved cultivators for cattle improvement in North Kanara District.*—Under this Scheme an amount of Rs. 2,000 was sanctioned in 1948-49 for payment of subsidies to cultivators in 5 villages in the Haliyal taluka of the Kanara district for the purchase of two cows and one bull per village. Accordingly 10 cows and 5 bulls were supplied. During the year under report the stock supplied under the Scheme was inspected periodically.

Four(4) Pandharpuri bulls had been located with Gawalis in this tract during the year 1949-50 and the improvement of buffaloes was continued.

(d) *Scheme for the supply of Premium cows and bulls to Lamani Societies in Bijapur District.*—Government had sanctioned Rs. 4,600 in 1949-50 for the purchase and supply of 10 cows and one bull free of cost to the Lamani Societies. The animals were supplied in 1949-50 to the cattle breeders of this community and located at Kalmad Tanda in Badami taluka. During the year the Government sanction for the continuance of the Scheme for a further period of one year from 1st April 1951 was received.

(e) *Scheme for supply of Premium Bulls to Cultivators in the Dangs District.*—Government had sanctioned the location of 6 Dangi bulls annually at  $\frac{1}{3}$ th cost to Government in the year 1949-50 for improvement of cattle in the Dangs district. The number of bulls was raised from 6 to 10 in 1950-51. The position of premium bulls issued under this Scheme was as under :—

	Year of Supply.	Total Number of bulls issued.	Balance on 31-3-1951.
1.	1949-50	6	4
2.	1950-51	10	10
		<hr/> 16 <hr/>	<hr/> 14 <hr/>

(f) *Mixed Farming Project at Yadhalli.*—This Scheme was sanctioned by Government in 1940-41 and 300 acres of land were leased out to 4 cultivators for establishing a combined cattle breeding and mixed farming project at Yadhalli. The total number of cattle maintained by these cultivators was 133 towards the end of the year. One hundred acres of land were under various kinds of crops and the total amount of fodder produced was 2,11,900 lbs. green and 1,67,000 lbs. dry.

70. *Scheme for the Colonization of Rabaris and Bharwads in Gujarat.*—The Scheme was launched by the Government of Bombay in the year 1948-49 with a view to settling on land members of the Rabari and Bharwad communities of North Gujarat and converting them into cultivator-cum-cattle breeders by granting them sufficient land for grazing their cattle and for raising crops for maintenance of their families. A similar Scheme had been started by the former Baroda Government in the Mehsana district in the year 1939-40, and on the merger of the Baroda State with Bombay the two Rabari colonies, one at Pratapnagar and the other at Bellasar, and the 24 settlements started under that scheme were taken over by this Department. During the year under report the scheme run by the Bombay Government and the old one started by the Baroda Government were amalgamated and reorganized. The number of families living at the two colonies and the 24 settlements was 406 with a total population of about 2,181 souls. The total number of cattle maintained by these families was 5,219 and the number of breeding bulls 17. The area under crops was 5,827 bighas and 13 Vasas and the approximate yields were 23,308 maunds of food grains and 72,838 maunds of fodder.

71. *Post-War Reconstruction Schemes.*—The following Post-War Reconstruction Schemes were in operation for extension of Cattle Improvement work in the State :—

Scheme No.	Name of the Scheme
32	Extensive work in Livestock Improvement.
33	Establishment of Cattle Breeding Farms in Ahmednagar and Nasik districts.
253	Scheme for the Intensification of Amritmahal Cattle Improvement work.
254	Scheme for the Improvement of milch buffaloes.
264	Gir Cattle Improvement Scheme, Dhandhuka.
265	Scheme for the Development of Goshalas and Panjra poles.

All the above schemes progressed according to plan.

72. *Miscellaneous.*—During the year under report all the Krishna-valley animals, the White Hanam cattle and culled animals from the Black and White Hanam breed, maintained by the Thatti (Livestock) and Kuran Departments of the former Sangli State were sold by public auction and at concession rates for breeding purpose. Nine (9) of the 10 kurans belonging to the Kuran Department of the former Sangli State were transferred to the Revenue Department during the year.

The Section continued to give advice and help to the farmers in the matter of better breeding, upkeep and management of their cattle. Technical assistance was also given, wherever required, to the Sanchalaks, Sarvodaya Schemes, and they were also assisted by locating bulls in the Sarvodaya areas.

#### SHEEP DEVELOPMENT SECTION.

73. Shri S. S. Khot, B.Ag., continued to hold charge of the post of Sheep Development Officer, Bombay State, Poona, and in addition he worked as Deputy Director (Livestock). He travelled 16,426 miles by rail and 1,083 miles by road, inspected the Sheep and Cattle Breeding Farms at Raibag, Suttatti, Kopargaon, Igaipuri, Bakrol, Guttal, Manjari, Thatvade, and Ranjani and directed the staff in the matter of selection of sheep, poultry and cattle and further breeding policy. He visited Delhi twice, once for attending the Northern Regional Committee's meeting in connection with the preparation, at the suggestion of the Indian Council of Agricultural Research, of a plan for the organization of the research on wool and sheep in the country on a regional basis, and, a second time for attending the meeting of the Wool Committee of the Indian Council of Agricultural Research. He also attended the meeting of the Southern Regional Committee of the Indian Council of Agricultural Research at Bangalore in connection with the Regional plan for sheep and wool research already mentioned. He attended the meeting of the Animal Husbandry Wing of the Board of Agriculture and Animal Husbandry in India at Izatnagar in March.

Dr. A. K. Deshpande B.Sc. (Bom.), Ph.D. (Leeds), held charge of the post of Research Officer and travelled 11,815 miles by rail and 2,011 miles by road and inspected the Sheep Breeding Farms at Bhilakhed, Dharwar, Guttal and Mahud and directed and supervised the breeding work. He visited Bangalore to attend the Indian Science Congress held there. He was deputed to study the breeds of goats and sheep in Uttar Pradesh and Punjab. He was also deputed to Bihar State for carrying out a survey of the sheep industry at the request of the Bihar Government.

74. The problem of improvement of sheep in the Bombay State may be considered under 3 heads :—

- (i) Evolving fine-fleeced woolly strains of sheep by selective breeding and cross-breeding with the Merino.
- (ii) Research into the problems of growth of wool and assessment of the quality of individual fleeces.
- (iii) Application of the results obtained to the rural areas.

The work under item No. (i) is carried out mainly at the Sheep Breeding Research Station, Poona; that under (ii) at the Wool Analysis Laboratory, Poona; and that under (iii) through the sub-stations in the Districts.

#### RESEARCH WORK.

75. The Sheep Breeding Research Station, Poona, has been able to evolve a strain of an all-wool white sheep and is further carrying out studies in regard to the inheritance of wool in sheep breeding. This

problem has two aspects, viz., (a) selection for the desired pattern of colour, i.e., an all-white sheep, or a sheep with a black face and white body, and (b) effective elimination of the kempiness inherent in the fleeces of the Deccan breed of sheep and development of a fleece with more compactness, longer staple length and finer fibre.

The cross-breeding of the Deccan sheep with the Merino offers possibilities for the selection of strains with superior quality wool clips suited to the different environmental conditions. The Deccan sheep yields on an average 12 ozs. of wool, while the fleece weights of cross-bred strains now under trial range from 24 ozs. to 40 ozs. Six different strains of cross-bred flocks are now under trial at the Sheep Breeding Research Station, Poona, and at the sub-Station in the Belgaum District. In addition to the breeding of the Deccan sheep to yield finer and heavier fleeces, the problem of improvement of the Banaskantha sheep is receiving attention and for this purpose an experimental flock is being maintained at the Sheep Breeding Farm, Patan.

During the year under report a batch of 20 Angora goats was imported from the United States of America with a view to undertaking work on Angora goat breeding. These goats have been located at the Sheep Breeding Farms at Poona, Suttatti (District Belgaum) and Guttal (District Dharwar).

76. *Wool Analysis Laboratory.*—The wool examination work at this Laboratory is designed to help in the selection of sheep on the basis of individual fleeces. The research work carried out during the last 10 years has yielded valuable results and definite standards have been set up for judging the various classes of sheep evolved as a result of selective breeding and cross-breeding with the Merino. The results of genetical and environmental influence on the growth of wool at the different centres of sheep breeding in the State are being recorded at the Laboratory. The selection of stud sheep for the experimental farms and those required for distribution to the rural areas is controlled by results obtained at this Laboratory. The results of examination of wools with regard to their quality enable a proper check to be maintained on the progress of the breeding experiments. The question of standardization of methods for sampling of wools for quality examination is also receiving attention at the Laboratory.

#### EXTENSION WORK.

77. During the year under report the benefits of results obtained from research at the different Sheep Breeding Research Stations were extended to the flock owners in their vicinity. The stud rams bred at these stations were located in the sheep breeding areas under controlled conditions in selected flocks so as to obtain quick and substantial results. Such intensive work has been undertaken in the vicinity of the following research sub-stations :—

Location.	District.
1. The Ram Rearing Centre, Mahud.	Sholapur.
2. The Sheep Breeding Research Station, Suttatti.	Belgaum.

	Location	District
3.	The Sheep Breeding Research Station. Nagardale.	Belgaum
4.	The Sheep Breeding Research Station. Anagwadi.	Bijapur.
5.	The Sheep Breeding Research Station. Dahiwadi.	North Satara
6.	The Sheep Breeding Research Station. Rahuri.	Ahmednagar.
7.	The Sheep Breeding Research Station. Bhilakhed.	East Khandesh.
8.	The Sheep Breeding Research Station. Patan.	Mehsana.

There is a great demand for improved stud rams and attempts are being made to rear selected ram lambs in large numbers at the farms and to distribute them to the flock-owners. In the Bombay Deccan many flocks are itinerant and travel long distances. In order to induce the itinerant shepherds to undertake improvement of their flocks it is necessary to establish rural sheep-breeding centres in the intensive sheep-breeding zones. Improved rams are located in 234 villages in seven Districts. The following table shows where they are situated, the number of improved rams located in each District and the number of flock-owners helped with subsidies :—

District.	Taluka.	Number of villages.	Flock- owners helped with subsidies.	Number of rams.
East Khandesh	Chalisgaon	13	4	76
Dharwar	Haveri	16	24	120
	Dharwar			
Sholapur	Sangola	72	172	509
	Pandharpur			
	Madha			
	Malsiras			
Bijapur	Bagalkot	80	95	751
	Bagewadi			
Belgaum	Athani	23	51	161
Ahmednagar	Rahuri	20	....	50
Mehsana	Patan	10	....	19
		234	346	1,691

As shown in the table above there are 346 subsidised flocks in 234 villages in the above Districts and 1,691 rams have been placed among the flocks belonging to shepherds.

Experimental flocks have also been placed at eight Agricultural Schools with a view to increasing the output of improved rams and for the instruction of the students at those institutions.

#### POULTRY DEVELOPMENT SECTION.

78. Shri B. B. Jamaspjina, B. Ag., continued to hold charge of the post of Poultry Development Officer until the 2nd June when he retired. The post was converted into a class II post and Shri R. M. Patil, G. B. V. C., M. Sc. (M. A. S. A.), Poultry Research Officer, was appointed to the post from the 3rd June 1950. He continued to hold charge of the post till the end of the year. Shri Patil travelled 12,057 miles by rail and 2,770 miles by road, attended 6 poultry shows, inspected 11 Government Poultry Farms and visited 50 private Poultry Farms for giving advice, assistance etc. This officer is also Honorary Secretary to the Bombay State Poultry Breeders' Association.

79. The Poultry Development work in the State may be conveniently described under (1) Research, (2) Extension and (3) Poultry Instruction.

#### RESEARCH WORK.

80. The Government Poultry Farms at Kirkee, Dhawar, Dhulia and Kurduwadi are research units primarily engaged in the breeding of different breeds of poultry, both foreign and indigenous, with a view to studying their egg-laying capacity, rate of growth and sexual maturity. However, investigations into the characters for higher egg-yield and meat are the main objects of the work at these institutions. Cross-breeding, grading and selection on family basis of the progeny from different matings under trial are carried out to gain information on sexual maturity, egg production and rate of growth.

The following research programme was under execution during the year under report :—

##### (a) *Breeding*

Selective breeding and recording the egg-yields of the following breeds :—

- |                        |                   |
|------------------------|-------------------|
| (1) White Leghorn.     | } Indian Strains. |
| (2) Rhode Island Red.  |                   |
| (3) Nandurbar Strain.  |                   |
| (4) Mokhada Strain.    |                   |
| (5) Ankleshwar Strain. |                   |
| (6) Travancore Ducks.  |                   |

##### (b) *Cross-breeding*

- (1) Deshi females R.I.R. Male, to study rate of growth, egg production and feed utilization efficiency.
- (2) Deshi females × Barred Plymouth Rock Male.

##### (c) *Feeding*

Effects of Vitamin D3 feeding on growth of chicks.

##### (d) *Marketing*

Study of loss of weight as a result of dressing and during cold storage of dressed birds.

(a) *Breeding*.—Breeding policies are framed for each farm every year by careful selection of birds to form breeding pens on the basis of their egg production, body size, conformation and other desirable points. The White Leghorn and the Rhode Island Red breeds are found admirably suited to our climatic conditions and the work of selective breeding is concentrated mainly on these two breeds. The pullets are under trap-nesting programme for the first year to observe their egg-laying capacity and the good layers are selected at the end of one year's period for forming breeding pens. The poor layers and the otherwise undesirable ones are rejected.

The following table gives the average egg-yield together with the weight of eggs in respect of some of the breeds with which work has been done :—

Breed.	1950-51		1949-50	
	Average number of eggs laid per bird.	Average weight of eggs in ozs.	Average number of eggs laid per bird.	Average weight of eggs in ozs.
1. White Leghorn .. ..	133	2.05	184	2.3
2. Rhode Island Red .. ..	135	1.9	161.4	1.9
3. Nandurbar Strain .. ..	118	1.3	107.63	1.48
4. Mokhada Strain .. ..	109	1.3	111.25	1.27
5. Ankleshwar Strain .. ..	115	1.3	72.50	1.29
6. Travancore Duck .. ..	113	2.6	121.0	2.6

Strains Nos. 3 to 6 were under observation to study their performance under improved management and feeding. The decrease in egg production seen in respect of Nos. 1, 2 and 6 is largely due to inbreeding and poor feed available.

With a view to keeping up the economic performance of the flocks to a high level, introduction of fresh strains is necessary. This avoids inbreeding and improves egg production, hatchability and body weight. To improve these traits in the flocks at various Government Poultry Farms the following stocks of day-old chicks were imported from England and Australia :—

Breed.	Number of chicks from England.	Number of chicks from Australia.	Total.	Mortality during air transit.
1. White Leghorn .. ..	100	120	220	5
2. Rhode Island Red .. ..	100	120	220	4
3. Australop .. ..	....	30	30	....
Grand total .. ..	200	270	470	9

The chicks were despatched in small card-board boxes by air from the respective countries and the mortality in transit was quite negligible. A plan of mating for the stock has been framed to secure better results. Comparison between the performances of the two stocks will be carried out to find out which stock is better suited to our climatic conditions.

The Australops have been imported to study the growth rate in cross-bred chicks from the mating of deshi females with Australop males.

(b) *Cross-breeding*.—Crossing indigenous females with foreign males is a very practical method of improving the egg-yield and body size and eliminating broodiness. Many pure-bred males are distributed every year to the Poultry-keepers and with a view to gaining information on the performance of the progeny from such matings, the following matings were arranged :—

Twenty (20) deshi females were mated to Rhode Island Red males and the progeny obtained were again mated to Rhode Island Red males to grade up the flock. The results obtained during four generations were as follows :—

Year.	Progeny.	Egg yield.	Size of egg.	Bodyweight.		Feed consumption for 12 months in Lbs.
				Lbs.	Oz.	
1946-47	Deshi females	93.81	1.4	3	4	72.38
1947-48	First progeny	109	1.67	Not recorded.		77.56
1948-49	Second progeny	148.75	1.73	3	15	83.7
1949-50	Third progeny	170.85	1.85	4	6	80.93
1950-51	Fourth progeny	139.0	1.92	4	0.8	94.06

Six deshi females were mated to a Barred Plymouth Rock male. This mating was arranged to study the rate of growth in chicks for the poultry meat market. Twenty-five (25) chicks were secured from this cross. The chicks are still young and have not yet started laying and hence complete results cannot be given. The colour of all the chicks secured from this mating is like that of the Barred Plymouth Rock indicating that barring is dominant to the colour patterns of indigenous birds.

Cross-breeding experiments on a small scale were carried out with the following breeds also, but as the number of chicks obtained was rather small no conclusive results could be obtained :—

- (1) Marran Male × Deshi Females.
- (2) Ancona Male × Deshi Females.
- (3) Aseel Male × Deshi Females.

(c) *Feeding*.—Vitamin D-3 was tried on 10 days-old chicks for 6 weeks as a preventive against rickets. No signs of rickets were observed in chicks from any group. The optimum increase in body weight was obtained

by 18,000 unit dose. Feeding of Vitamin D-3 gave a higher increase in body weight. Feeding of Vitamin D-3 in oil concentrate or in the powder form did not make any significant difference.

(d) *Marketing*.—Marketing of poultry for meat is to be studied from many aspects such as (1) the economics of marketing, (2) correct age at which to market birds to secure maximum returns, (3) marketing dressed birds, etc.

A small experiment was undertaken to find out the loss in weight among dressed birds during cold storage; also to find out the relative proportions of bone, blood, offal, etc. in cockerels.

A batch of 103 cockerels of 5-8 months of age was purchased from the poultry-keepers in the Sholapur and Kolhapur districts for slaughter and preservation in cold storage. The birds were kept at the Government Poultry Farm, Kinked, for one week after arrival and fed well before slaughter. The relative proportions of flesh, bone, fat, blood, offal, etc. in the cockerels whose average weight was 2 lbs 12 ozs. were as follows :—

	Lbs	Ozs.	Percentage by weight.
(1) Flesh, bones and fat . . . . .	2	25	78.4
(2) Blood . . . . .	0	30	6.8
(3) Offal . . . . .	0	40	9.1
(4) Feather . . . . .	0	25	5.7

The intestines, crop, stomach, trachea and lungs were removed before keeping in cold storage. Head was left on to indicate health of the bird. Birds were bled to death by severing the jugular vein.

The birds were hung out for one night and then kept in the cold store. The flesh became hard and dark and the colour of the fat was yellowish. The dressed fowls were kept in cold storage from the 15th December to the 20th March, i.e., for three months.

There was a shrinkage in weight as a result of cold storage by 11.7 per cent. This was regained when the bird was taken out from the cold store and allowed to thaw.

#### EXTENSION WORK.

81. Up to the beginning of the World War II, poultry and poultry products were not considered of sufficient economic importance. Poultry kept on a small scale was not considered worth much attention due to the poor returns obtained. The demand for poultry and eggs has since increased and the high prices offered have given an impetus to the farmers to increase their stock and to improve them. The poultry-keepers are assisted in the following ways :—

- (i) Supply of pure-bred cocks and hatching eggs
- (ii) Grant of premia.
- (iii) Advice in poultry sanitation, hygiene and advantages of keeping pure-bred fowls.
- (iv) Holding poultry shows and rallies.

Help was also given to poultry farmers and breeders in the Sarvodaya areas in securing housing material and poultry feeds.

(1) *Poultry Farms*—There are 14 Poultry Farms in the State as shown below :—

(a) Poultry Research Farms at (1) Kirkee. (2) Dhairwar, (3) Dhulia and (4) Kurduwadi

(b) District Poultry Farms for supply of stock at (1) Kolhapur, (2) Kopergaon and (3) Sangola.

(c) Poultry Units attached to Agricultural Schools for training the Agricultural School students in poultry husbandry at (1) Nasik, (2) Borgaon (Satara), (3) Kumta, (4) Arbhavi (Belgaum) and (5) Bagalkol.

(d) Poultry Farms in backward tracts at (1) Ahwa (Dangs) and (2) Chinchpada (West Khandesh).

The farms serve as demonstration and education centres and sources of supply of pure-bred fowls to rural poultry-keepers. The farms have been established with certain objectives as stated against them. However, all the farms serve the requirements of poultry extension work in accordance with the size of the flocks maintained at them.

During the year under report pure-bred birds and hatching eggs were supplied as below :—

			Birds.	Hatching eggs
At concession rates	..	...	2,441	9,834
Half cost	...	...	129	432
Free of cost	...	..	25	1,055
			2,595	11,321

In addition, the following number of birds and eggs were distributed free of cost in the Dangs District :—

Pure-bred cocks.	25
Graded White Leghorn hatching eggs.	570

The following number of birds and eggs were distributed to the Sarvodaya Centres in the Bombay State :—

Name of the centre.		Birds	Hatching eggs.
1. Sholapur District	...	66	420
2. Belgaum District	...	73	428
3. Kolhapur District		235	450
4. Bijapur District	.	40	..
5. Ratnagiri District	..	23	..
6. Dharwar District	.	10	...
7. North Kanara District	...	5	124
8. East Khandesh District	..	33	144
9. West Khandesh District	...	2	81

As an encouragement to the Poultry-keepers to aim at higher egg production and to build hygienic houses 95 premia worth Rs. 13,250 were awarded.

Thirty-five (35) Poultry shows and one fair were organized in the Districts.

(ii) *Egg collecting Scheme Landharpur*—This is the eighth year of the running of this project which was launched with a view to supplying hatching eggs to the Military Hatcheries and table eggs to the Military hospitals from the Sangola and Landharpur talukas of the Sholapur District. Efforts are now directed towards bringing about mass poultry improvement in these intensive poultry-rearing zones and to find a market for the high quality poultry and eggs produced in these areas.

During the year under report there were under this scheme 435 registered poultry-keepers as against 391 during the previous year spread over 57 villages as against 47 of the previous year. They owned 8,314 pure-bred fowls as against 7,963 during the year previous. They produced a large number of table and hatching eggs and graded cocks. During the year under report the number of table eggs sold was 1,43,498 as against 1,10,862 during the year previous. In addition, 4,252 hatching eggs and 73 graded White Leghorn birds were supplied to Belgaum, Bijapur, Sholapur, Poona, Kolhapur, South Satara and Thana Districts. Besides this 1,344 hatching eggs and 14 White Leghorn graded cocks were supplied to the Sarvodaya Centres in the Belgaum, Sholapur and Bijapur Districts.

During the year, a 4-H. Boy's Club was started in the Sholapur District and farmers' sons were given 504 hatching eggs at concession rates to encourage them to take to poultry-keeping.

In order to enable the high standard of breeding in this area to be maintained, poultry-keepers were supplied with 216 pure-bred cocks of the White Leghorn and Rhode Island Red breeds and with 3,093 hatching eggs.

During the year under report, a co-operative Egg Sale Society was organized in the Sangola Taluka and it is hoped that this would give a further impetus to poultry-keeping in this area.

Wherever possible arrangements were made to supply waste grains from the Government godowns to poultry-keepers. Three hundred (300) bags were distributed amongst poultry-keepers.

82. *Poultry Instruction*.—One of the important activities of this Section is to organize Poultry Training Classes. During the year Short Practical Poultry Courses of three months and a long course of nine months were conducted at each of the Government Poultry Farms at Kirkee, Dhulia and Dharwar where instruction was imparted by the staff of the Section to farmers' sons in the local and English languages in Poultry Breeding, Poultry Management, Poultry Feeding, Poultry Housing, Preservation of Eggs, Marketing, Sanitation, etc.

The total number of students trained in the Three Months' Course was 59. The details are as follows :—

Backward Class Students	...	...	10
Policemen	...	...	5
Others	...	..	44
Total			59

In addition, 5 persons completed the nine months' course. Backward Class students at the Government Poultry Farm, Kirkee, are awarded scholarships of Rs. 30 per month each and at the Government Poultry Farms, Dharwar and Dhulia, of Rs. 20 per month each. During the year an expenditure of Rs. 930 was incurred on account of grant of scholarships to Backward Class students. The students were taken on an educational tour to Sholapur and Kolhapur Districts.

Since the commencement of these classes a large number of village poultry-keepers (breeders) from the Districts of Sholapur, Ahmednagar, Poona, East Khandesh, Belgaum, Dharwar, Kolhapur, Thana and Kolaba have taken advantage of the instructional facilities offered.

83. *Miscellaneous*.—American Bronze Turkeys are maintained at Dharwar, Dhulia and Kirkee Poultry Farms. During the year 3 turkeys were sold for breeding for Rs. 35 and 33 turkeys were sold for table purposes for Rs. 662-2-0.

Uptil now hatching at the Government Poultry Farm, Kirkee, had been carried on by Kerosene Oil Incubators. To enable hatching to be taken up on a large scale an electric incubator of 1,408 egg capacity was purchased during the year.

An additional storey was erected over the office and Store Room at the Government Central Poultry Farm, Kirkee, at a cost of Rs. 15,945 to provide additional built up space for staff, etc., due to expanding activities of the Farm.

Additional land measuring 15 acres and 6 gunthas was acquired at a cost of Rs. 25,595 for the Government Poultry Farm, Kurduwadi.

Thirty-eight (38) Poultry houses measuring 8'x5'-3" each were constructed during the year for various poultry farms. These houses will accommodate some 550 adult fowls.

Pig-breeding work is entrusted to the Poultry Section. During the year under report 2 pigs were slaughtered and 465 lbs. of pork sold for Rs. 254.

#### DAIRY DEVELOPMENT SECTION.

84. Shri G. S. Godbole, B. A. (Bom), B. Sc. (Reading), continued to hold the post of Dairy Development Officer throughout the year under report. He travelled 6,330 miles by rail and 485 miles by road. He visited Ahmedabad and Hubli twice to inspect the work of the Milk Supply Schemes, the milk-collecting centres under the Poona Milk Supply Scheme and the farms operating under the Scheme to help large-scale Dairy farmers at Nasik, Hubli and Poona. He also visited a number

of private institutions throughout the State and offered advice on dairy matters. He attended the 9th meeting of the Animal Husbandry Wing of the Board of Agriculture and Animal Husbandry in India at Bangalore in March and the meeting of the Gosale Advisory Committee in my office.

Shri Godbole was assisted in the survey work by Shri B. D. Patel, B.Sc. (Agri.), Dairy Surveyor (B.A.S. Class II). Shri Patel visited 7 dairy institutions both Government and private, to study their working and rendered technical advice where necessary. He visited several places in the Ahmedabad and Kana Districts with a view to establishing Milk Collecting Centres for the Ahmedabad Milk Supply Scheme.

85. The main activities of this Section may be briefly summarized as follows:—

(i) To frame schemes of Dairy Development for different areas and to implement and apply them.

(ii) To carry out comprehensive surveys of cities and towns of the Bombay State with a view to collecting information regarding the milk supply position and problems connected with cattle keeping, etc., and also to survey interior areas under canal irrigation, riverine valleys, forest grazing lands, etc., with a view to determining their potentialities for dairy development.

(iii) To render technical advice and help to the dairy farmers, dairy societies, etc.

(iv) To frame and take up all other schemes connected with dairy development.

86. (a) *Scheme to Help Large Scale Dairy Farmers.*—The Scheme aims at the establishment of large scale dairy farms, producing a minimum of 500 lbs. of milk per day, so as to augment the milk supply to large towns and to raise pedigreed bulls for distribution to the surrounding areas. Farmers possessing the necessary financial status, solvency and facilities for dairy farming and willing to abide by the conditions laid down in the scheme are selected for the grant of loans under the Scheme.

In all 8 large-scale dairy farmers as mentioned below have so far been assisted under the Scheme by the grant of loans totalling Rs. 3,78,256 including the one of Rs. 43,000 granted during the year under report.

Name.	Place.
1. Shri M. J. Patel	... Ahmedabad.
2. Shri P. K. Patil	... Kundewadi, District Nasik
3. Shri C. M. Warad	... Sholapur.
4. M/s. Govardhan Dairy Farms.	... Poona.
5. Shri B. B. Dangat	... Shivane, District Poona.
6. Shri S. A. Hindalgekar	... Hindalga, District Belgaum.
7. M/s. Doddanavar Bros.	... Belgaum.
8. Govardhan Sanstha	... Hubli.

The number and breed of the animals maintained by each of the dairy farmers and the present daily production of milk at each farm are shown below :—

Name of the Dairy Farmer.	Breed.	Strength of dairy stock.		Daily milk production.
		Cows.	Buffaloes.	
1. Shri M. J. Patel, Ahmedabad	.. { Kankrej .. 27 Mehsana .. .. 11 }	..	..	287 lbs.
2. Govardhan Dairy Farm, Poona	.. { (i) Gir .. .. (ii) Sahival .. .. (iii) Sindhi .. .. }	..	..	64 lbs.
3. Shri B. B. Dangate, Shivane, District Poona	Surti .. ..	..	6	Not available.
4. Shri P. K. Patil, Kundewadi, Dist. Nasik.	{ Surti .. .. Local .. .. 5 }	..	24	117 lbs.
5. Shri C. M. Warad, Sholapur	.. { Hariana .. .. 16 Surti .. .. 5 }	..	..	79 lbs.
6. M/s. Doddanavar Brothers, Belgaum	.. { Mudalgi .. .. 15 Local .. .. 3 }	..	..	100 lbs.
7. Shri Hindalgekar, Hindalga, Dist. Belgaum	{ (i) Mudalgi .. .. (ii) Delhi Local 2 }	..	22	88 lbs.
8. Govardhan Sanstha, Hubli ..	.. { (i) Hariana .. .. 14 (ii) Sindhi .. .. (i) Delhi .. .. (ii) Surti .. .. }	..	..	175 lbs.

It will be observed that the purpose of the Scheme has not been achieved so far but this is largely due to the fact that the movement of dairy animals from one District to another was banned by the District Magistrates, and great difficulty was experienced by the farmers in obtaining the required number of animals. Another difficulty in the way was of proper accommodation for housing the dairy stock. The construction of sheds could not be speeded up due to non-availability of controlled building materials such as iron, steel and cement, but it is hoped that the scheme would make substantial progress this year.

(b) *Scheme to help small scale dairy farmers.*—Under this Scheme a loan of Rs. 1,000 is granted to a cultivator who intends to start dairy farming on a small scale for the purchase of dairy animals, dairy utensils

on construction of cattle sheds. In all 81 dairy farmers have been helped with loans so far as shown below :—

Name of the District.					No. of farmers helped.
1.	Mehsana	...	...	...	2
2.	Ahmedabad	..	.	...	3
3.	Broach	...	...	...	3
4.	Surat	...	..	...	2
5.	Thana	...	...	...	4
6.	Ahmednagar	..	...	...	7
7.	East Khandesh	.	.	.	6
8.	West Khandesh	..	...	...	4
9.	Nasik	...	...	...	4
10.	Poona.	..	...	...	19
11.	North Satara	..	...	...	1
12.	South Satara	..	...	...	2
13.	Sholapur	...	..	...	7
14.	Kolhapur	...	...	...	3
15.	Belgaum	...	...	...	5
16.	Bijapur	...	...	...	1
17.	Dharwar	...	...	...	1
18.	Kanara	...	...	...	2
19.	Kolaba	...	...	...	4
20.	Ratnagiri	...	..	...	1

Total ... 81

The recipients have purchased the stock of animals, constructed cattle sheds or purchased dairy equipment according to their requirements. These small scale units serve as valuable sources for obtaining information on the economics of cattle maintained for milk production and also help in development of the dairy industry. The staff of the Dairy Section periodically visited the small scale dairies and gave help and guidance in the maintenance of the animals and disposal of milk and milk products.

(c) *Government Milk Supply Scheme for Poona, Ahmedabad and Hubli.*—The object of this Scheme is to develop dairying in the rural areas and supply quality milk to the cities at reasonable rates. Immediate target is 4,000 lbs. per city per day.

(1) *Poona Milk Supply Scheme.*—The Talegaon area on the Poona-Bombay Road was selected as the milk procurement area. Towards the beginning of the year only about 54 producers were supplying milk and the daily quantity of milk handled was only 1,551 lbs. The quantity increased rapidly and during March it was 3,899 lbs. per day and the number of producers supplying milk 186. In the beginning Bebadohol in the Talegaon area was the only milk collecting centre but towards the end of the year two new procurement centres, one on the Poona-Mulshi route and the other on the Poona-Chakan route, were established. The milk was purchased at As. 8-10 per seer and sold at As. 12-14 per seer.

The demand for the quality milk sold under the Scheme is increasing rapidly. There are at present in all 28 distributing centres operating in the City. The quantity of milk distributed during March was 3,449 lbs.

The milk is pasteurised to maintain its quality, and tests to control the quality are carried out both at the procurement and distribution ends to ensure the supply of good quality milk to the public. During the year under report, the expenditure on the Poona Scheme was Rs. 3,48,884 and the proceeds from the sale of milk Rs. 3,69,060.

The producers are supplied cattle feeds such as groundnut cake, cotton seed, etc., at controlled rates.

The milk collecting scheme has given impetus to the development of dairy industry in the Talegaon area and members supplying milk have purchased additional animals worth Rs. 80,000 of their own accord. A Co-operative Milk Producers' Society has been formed and is awaiting registration which will cater to the day-to-day needs of the producers.

Poona at present consumes about 1 lakh lbs. of milk a day but as per nutritional standards the consumption should be nearly 3 times that amount. The amount of milk supplied under the Scheme is, however, only a fraction of even the present daily consumption. Therefore, proposals to expand the Scheme so as to enable it to handle at least 25,000 lbs. of milk a day have been submitted to the Poona Corporation. The proposals are under the consideration of Government.

(ii) *Milk Supply Scheme, Ahmedabad.*—The scheme began functioning in July. In the beginning milk was procured from the Naika area in Kaira District but the road leading to the area having been damaged during the monsoon, the centre was abandoned and Chiloda in Matar Taluka of Kaira District was selected for milk collection. The quantity of milk handled during the month of August was 13,556 lbs. which rose to 20,157 lbs. in March. The number of distributing centres operating at the end of the year was 10. Laboratories have been established at procurement centres and at the central dairy where regular checking of milk samples was carried out. The purchase rate of milk was As. 6 per seer and the selling rate was fixed at As. 10. The private agency system of collection and sale of milk in Ahmedabad which has been in vogue for a number of years greatly hampered the proper working of the scheme in this town.

(iii) *Milk Supply Scheme, Hubli.*—The Scheme started operating in July. Five distribution centres were opened. To begin with the Hubli-Haveri route was selected for milk procurement but it was observed that the producers were accustomed to converting milk into milk products and so this area had to be abandoned. At present milk is obtained from the villages on the Dharwar-Belgaum route. The quantity procured monthly in the beginning was 13,929 lbs. which increased to 27,987 lbs. by March. The scheme was extended to Dharwar town in the month of November by establishing 2 distributing centres. The purchase rate of milk was As. 7 per seer and the selling rate varied from As. 11 to As. 12. The Inspecting staff carried out rigorous inspection of milk distribution centres to exercise proper check on the quality of milk sold. The Scheme has at present to face unhealthy competition from uncontrolled private agencies.

(d) *Makarpura Dairy Farm, District Baroda.*—The Mukarpura Dairy Farm continued to be maintained by the Section. The number of animals maintained at the farm at the end of the year was 29 Kankrej Cows and

21 Surti buffaloes. The quantity of milk produced was 77,361 lbs. and an amount of Rs. 22,054 was realised from the sale of milk. The average milk production per cow was, 2,355 lbs. in 300 days of lactation.

87. *Survey Work.*—During the year under report the survey staff was busy in assisting the Milk Supply Schemes at Poona, Ahmedabad and Hubli in procuring milk from the villages already surveyed and in carrying out surveys of new areas likely to serve as sources of milk supply to the above cities. Kadus and Bhore regions in Poona District were surveyed with a view to augmenting the milk supply to Poona, but it was found that in the Kadus area surplus milk was not available, while in the Bhore area the agency system is in vogue for milk collection which it may be difficult to dislodge. The villages on the Bombay Poona route appear to be a very promising source of milk collection for supply to Poona. A survey of the Hubli-Amergol route near Dharwar was also carried out and it was estimated that a daily supply of 500 lbs. of milk would be available for supply to Hubli and Dharwar.

During the year, the riverine areas near the valley of Kamshet in Poona District were surveyed and it was observed that the areas offer great possibilities of dairy development provided facilities for irrigation from the river are provided. A rapid survey of the Kolhapur District was also carried out with a view to examining the possibilities of starting a Co-operative Milk Supply Union. Some of the important butter producing areas in the Talukas of Haveri, Bagewadi and Kalghatgi were also surveyed.

88. *Advisory Work.*—Technical help and advice were rendered to dairy farmers, dairy societies and other interested in dairying. A number of enquiries were received regarding the utilization of milk products, the selection of breeding stock, the feeding and management of dairy animals, etc. They were attended to both by correspondence and by paying personal visits. A number of persons were helped in securing material for establishing dairies and in the purchase of dairy animals, cattle feeds, etc.

89. *Miscellaneous.*—The Dairy Development Section took part in several exhibitions and shows. The models of "Dairy Farm" and "City Milk Supply" along with various kinds of cattle feeds, dairy equipments, etc., were exhibited.

## IX. Subordinate Staff.

90. *Veterinary Section.*—At the beginning of the year there were 283 sanctioned posts of Veterinary Assistant Surgeons in the Department. Eleven additional temporary posts of Veterinary Assistant Surgeons were sanctioned by Government during the year under report, viz., 6 for Veterinary Dispensaries in the merged State areas, 1 for the Society for the Prevention of Cruelty to Animals Hospital, Nasik, 1 for the Society for the Prevention of Cruelty to Animals Hospital, Poona, taken over by Government, 1 for the Serum Institute, Bombay, 1 for the Goat Virus Sub-Station, Baroda, and 1 for the Artificial Insemination Section, Poona. Thus the number of sanctioned posts of Veterinary Assistant Surgeons at the end of the year was 294.

The number of Veterinary Assistant Surgeons actually working was 194, viz., 178 in charge of Veterinary Dispensaries, 9 as Reserve Veterinary Assistant Surgeons attached to these institutions for training and 7 engaged in the manufacture of Sera and Vaccines. There were 100 vacancies.

In the Bombay City and Harbour Veterinary Department of the 8 posts of Veterinary Inspectors at the beginning of the year, 1 was abolished towards the close of the year as a measure of retrenchment. Thus there were 7 Veterinary Inspectors working in that Section at the end of the year.

At the Bombay Veterinary College 8 Lecturers, 4 Graduate Assistants and 1 Hospital Surgeon continued to work.

During the year two posts of Graduate Assistants were created, one in connection with the Scheme for investigation into Mastitis in the Bacteriological Section of the Bombay Veterinary College, and the other for the Parasitologist to assist that officer in the investigation of parasitic diseases of cattle.

The 3 posts of Lecturers and 1 of Assistant Lecturer sanctioned in the mofussil in connection with the Stockmen's Training Classes were abolished as a result of the closing down of the Stockmen's Courses.

At the beginning of the year there were 308 sanctioned posts of Stockmen in the Department. During the year 7 additional posts of Stockmen, viz., 2 for the Serum Institute, Bombay, 3 for the Artificial Insemination Section, Poona, 1 for the Goat Virus Sub-Station, Baroda, and 1 for the Branch Veterinary Dispensary, Ichalkaranji, were sanctioned. Thus at the end of the year there were 315 sanctioned posts of Stockmen in the Department. The number of Stockmen employed in the Department was 312 and 3 were on deputation, viz., 1 under the Milk Commissioner, Bombay, and 2 at the Agricultural College, Dharwar. Of the 312 employed in the Department 3 were working at the Goat Virus Producing Station, Bombay, and the Goat Virus Sub-Stations at Jalgaon and Dharwar, 1 under the Parasitologist, Bombay, 2, at the Serum Institute, Bombay, 3, in the Artificial Insemination Section, Poona, 1 each at the Agricultural Schools at Puntamba (District Ahmednagar), Kosbad (District Thana), Manjri (District Poona) and Devihosur (District Dharwar), 226 were on general duty in connection with the immunization of cattle, control of outbreaks of cattle diseases, relieving duty, etc., and 73 were in charge of small Dispensaries owing to the shortage of Veterinary Assistant Surgeons in the Department.

*Animal Husbandry Section.*—This Subordinate staff employed in the Animal Breeding and Dairying Sections of the Department consisted of 67 Agricultural Officers and 227 Agricultural Assistants and Field Kamgars. 47 Agricultural Officers and 203 Agricultural Assistants and Field Kamgars were employed on district work and 20 Agricultural Officers and 24 Agricultural Assistants in connection with educational and research activities.

## X. Expenditure of the Department.

91. The total expenditure on the Department amounted to Rs. 55,31,952 of which, a sum of Rs. 51,17,835 was met from Table IX the State Revenues and Rs. 4,14,117, by the Local Bodies. The Government of India contributed Rs. 14,749 towards the administration of the Livestock Importation Act and a sum of Rs. 21,662 was received from the Indian Council of Agricultural Research towards the cost of schemes partly or wholly subsidised by that body.

## XI. General Remarks.

92. The number of Veterinary Dispensaries operating in the 28 Districts of the State is 254, while the supervisory staff consists of seven Divisional Veterinary Officers only. The supervisory staff is inadequate and the charges of the Divisional Veterinary Officers are heavy. There is urgent need for more Divisional Veterinary Officers so that the charges may be uniformly distributed and in the interest of the proper supervision of veterinary activities.

In some of the districts, newly created consequent on the merger of the former States, the veterinary aid is very poor and there is an incessant demand from the public from these (and even other) Districts of the State for more Veterinary Dispensaries. Special consideration in respect of such tracts as are badly in need of veterinary facilities is necessary, despite the fact that the programme of opening more Veterinary Dispensaries (Post War Reconstruction Scheme No. 51) has been suspended for the present.

The work turned out at the dispensaries showed an increase as compared with that during the year previous. The work done on tour was, however, less. This was due to the fact that the Travelling Allowance grants of the staff were cut and consequently visits to fixed centres for treatment of ordinary cases and touring for propaganda had to be suspended.

Due to the paucity of Veterinary Assistant Surgeons, a large number of Veterinary Dispensaries had to be placed in charge of Stockmen. The position is showing a tendency to improve, but in spite of the grant of liberal concessions to the students such as scholarships, exemption from payment of fees, etc., there was no marked improvement in the admission to the Bombay Veterinary College. The strain on the existing staff of Veterinary Assistant Surgeons, therefore, continues.

Rinderpest among bovines prevailed to a greater extent than in the year previous. It was particularly widespread in the East and West Khandesh and Nasik Districts. A virulent form of disease later identified as Rinderpest occurred among sheep and goats in the Southern Maratha Country and the Malnad tracts of Karnatak, and was responsible for heavy mortality among these animals. Similarly, Hæmorrhagic Septicæmia was more widely prevalent during the year under report than during the year previous, the Districts particularly affected being Bijapur,

Dharwar, Belgaum, Kolhapur and Panchmahals. Prompt measures were taken by the Department to control the diseases and large scale inoculations were undertaken both in the town and selected villages.

The Gujrat tract was practically free from the scourge of Black Quarter. The disease was not also wide-spread in other districts of the State except in six, viz. Belgaum, Bijapur Solapur, Dharwar, South Satara and Kolhapur.

The Serum Institute in the State is now in regular operation and supplies 511,150 doses of Haemorrhagic Septicaemia and 2,10,100 doses of Black Quarter vaccine for use in the field. The Institute is, however, working under considerable handicaps of space and it is difficult to expand its activities at its present site in Bombay. The question of putting up permanent buildings for the Institute at the site acquired for it at Poona deserves urgent consideration.

Vaccination against Ranikhet Disease in poultry is gaining in popularity as also the Hexylian treatment for the destruction of ticks.

The number of bulls and cows issued under the various schemes shows a progressive increase but the leeway to be made up in this respect is too great. It is hoped that the method of artificial insemination, once it becomes popular, will to some extent minimise the problem of the acute shortage of bulls.

The activities of the Sheep and Goat and Poultry Development Sections are expanding and the number of improved rams and poultry and hatching eggs issued for grading up of village stock is steadily increasing.

The Poona Milk Supply Scheme has been a success, the target fixed for it has been reached and there is great demand from the public for the clean and wholesome milk supplied under the scheme. However, the Milk Supply Schemes at Ahmedabad and Hubli which were started during the year had to function under severe handicaps and were not in full operation by the close of the year.

During the year Shri B. B. Jamaspisina, Poultry Development Officer, retired after 33 years service. In his retirement, the Department lost a capable and efficient officer.

The help rendered by all members of the staff, both professional and ministerial, is gratefully acknowledged. My thanks are also due to various officials and non-officials for the assistance rendered by them to the Department.

L. SAHAI,  
M.Sc., M.R.C.V.S.,

Director of Animal Husbandry and  
Veterinary Science, Bombay State, Poona.

**ANNUAL ADMINISTRATION REPORT OF THE BOMBAY CITY  
AND HARBOUR VETERINARY DEPARTMENT FOR  
THE YEAR 1950-51.**

The report deals with the work under the Livestock Importation Act, and the equine diseases scheduled under the Glanders and Farcy Act, within the town and island of Bombay including Greater Bombay and Harbour.

2. Shri S. R. Chadha, BSc MRCVS, carried out the duties of Government Veterinary Officer for the Bombay City and Harbour throughout the year.

3. Shri R. C. Nathani, G.B.V.C Deputy Superintendent, Bombay City and Harbour Veterinary Department supervised the work of the Veterinary Inspectors of the Bombay City and Harbour Veterinary Department under the general supervision and guidance of the Government Veterinary Officer. As a measure of retrenchment, however, towards the close of the year (26th March) one post of Veterinary Inspector along with that of a peon was abolished. Two Veterinary Inspectors in addition to their normal duties inspected the cattle tendered for slaughter at the Bandra and Kurla slaughter houses.

4. *Glanders*—Five hundred and ninety-eight (598) suspected or in-contact horses were malleined during the year under report as against 732 during the previous year. Of the malleined horses 64 having given suspicious reactions, were removed for further tests to the Government Lazaretto as against 68 during the year previous. Of these 64 horses, 58 were found positive for Glanders and were destroyed and their carcasses incinerated. Of the 58 horses that were destroyed, 32 were clinical and 26 non-clinical cases of Glanders. The remaining 6 horses were discharged as non-reactors and free from Glanders and Farcy. Owners of 26 non-clinical cases which were destroyed, received compensation varying from Rs. 200 to Rs. 400 under the Act.

All the 395 horses admitted to the Bai Sakarbai Dinshaw Petit Hospital for Animals were malleined. Of these, 5 reacted and were sent to the Government Lazaretto for further tests. There only 1 reacted and the rest proved negative. The former was destroyed and the latter discharged. These cases stand included in the total number of 64 suspected cases.

5. *Epizootic Lymphangitis*—During the year 16 cases of Epizootic Lymphangitis were detected at the Haffkine Institute as against 19 during the year previous. They were destroyed at the Lazaretto and their carcasses burnt. In connection with the outbreak of Epizootic Lymphangitis at the Haffkine Institute, a total of 3,931 smears from all wounds in horses were examined for Epizootic Lymphangitis and as a result of this examination 16 animals were declared as positive for the disease and the rest negative.

6. *Surra*.—Surra cases numbering four were admitted to the Lazaretto as against 5 during the previous year. Of these, 3 were successfully treated and discharged. One animal died while under treatment.

7 *Livestock Importation Act*—Under the Livestock Importation Act 39 horses were imported into the Bombay City either by sea or air as against 62 horses and 2 zebras during the year previous. All these horses were from English ports only. Of these, 34 had valid mallein certificates while the certificates of 5 were not valid. These latter were malleined in the stables and declared negative.

During the year 552 Indian bred horses were brought to Bombay City as against 1080 during the year previous. Almost all the horses were for sale.

8 *Buildings*—Current repairs to the Government Lazaretto for Animals were carried out by the Public Works Department as usual.

9 Statement of receipts and expenditure in respect of this section is enclosed (Table XII).

S R CHADHA,  
BSc, MRCVS

Principal Bombay Veterinary College and  
Government Veterinary Officer for Bombay  
City and Harbour Veterinary Department

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TABLE I

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TABLE

*Statistics of Mortality from Contagious diseases and other causes  
1950-51.*

Name of the State.	Equine.						
	Glanders.	Surra.	Dourine.	Anthrax.	Other contagious and parasitic diseases.	Total.	Other causes.
1	2	3	4	5	6	7	8
Bombay.							
Ahmedabad	...	...	...	...	...	...	...
Broach and Panch Mahals	...	...	...	...	...	...	...
Kaira	...	...	...	...	...	...	...
Surat	...	...	...	...	...	...	...
Thana	...	...	...	...	...	...	...
Ahmednagar	...	...	...	...	...	...	...
East Khandesh	...	...	...	...	...	...	...
West Khandesh	...	...	...	...	...	...	...
Nasik	...	...	...	...	...	...	...
Poona	...	...	...	...	...	...	...
Satara (North)	...	...	...	...	...	...	...
Sholapur	...	...	...	...	...	...	...
Belgaum	...	...	...	...	...	...	...
Bijapur	...	...	...	...	...	...	...
Dharwar	...	...	...	...	...	...	...
Kanara	...	...	...	...	...	...	...
Kolaba	...	...	...	...	...	...	...
Ratnagiri	...	...	...	...	...	...	...
Bombay Suburban District	...	...	...	...	...	...	...
Bombay City	...	...	...	...	...	...	...
Banaskantha	...	...	...	...	...	...	...
Sabarkantha	...	...	...	...	...	...	...
Mehsana	...	...	...	...	...	...	...
Amreli	...	...	...	...	...	...	...
Baroda	...	...	...	...	...	...	...
Dangs	...	...	...	...	...	...	...
Kolhapur	...	...	...	...	...	...	...
Satara (South)	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...
Total for 1950-51	8	135	...	...	15	158	4
Total for 1949-50	...	45	...	...	3	48	...
Total for 1948-49	...	41	...	...	4	45	...

amongst the Live-stock in the State of Bombay during the year

[illegible]

TABLE

Name of the State.		Buffaloes.					
		Rinderpest.	Hemorrhagic Septicemia.	Foot and Mouth disease.	Black quarter.	Anthrax.	Surra.
1		18	19	20	21	22	23
Bombay.							Other contagious and parasitic diseases.
							24
Ahmedabad	...	...	...	...	...	...	...
Broach and Panch Mahals	...	...	...	...	...	...	...
Kaira	...	...	...	...	...	...	...
Surat	...	...	...	...	...	...	...
Thana	...	...	...	...	...	...	...
Ahmednagar	...	...	...	...	...	...	...
East Khandesh	...	...	...	...	...	...	...
West Khandesh	...	...	...	...	...	...	...
Nasik	...	...	...	...	...	...	...
Poona	...	...	...	...	...	...	...
Satara (North)	...	...	...	...	...	...	...
Sholapur	...	...	...	...	...	...	...
Belgaum	...	...	...	...	...	...	...
Bijapur	...	...	...	...	...	...	...
Dharwar	...	...	...	...	...	...	...
Kanara	...	...	...	...	...	...	...
Kolaba	...	...	...	...	...	...	...
Ratnagiri	...	...	...	...	...	...	...
Bombay Suburban District	...	...	...	...	...	...	...
Bombay City	...	...	...	...	...	...	...
Banaskantha	...	...	...	...	...	...	...
Sabarkantha	...	...	...	...	...	...	...
Mehsana	...	...	...	...	...	...	...
Amreli	...	...	...	...	...	...	...
Baroda	...	...	...	...	...	...	...
Dangs	...	...	...	...	...	...	...
Kolhapur	...	...	...	...	...	...	...
Satara (South)	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...
Total for 1950-51	...	3,492	6,847	7	692	100	65
Total for 1949-50	...	738	6,265	59	1,482	80	86
Total for 1948-49	...	225	5,859	65	475	94	140



TABLE

Name of the State.	Goats.							Other cause.
	Anthrax.	Goat Pox.	Pleuro Pneumonia.	Foot and Mouth disease	Scab.	Other contagious and Parasitic diseases.	Total.	
1	35	36	37	38	39	40	41	42
Bombay.								
Ahmedabad	...	...	...	...	...	...	...	...
Broach and Panch Mahals	...	...	...	...	...	...	...	...
Kaira	...	...	...	...	...	...	...	...
Surat	...	...	...	...	...	...	...	...
Thana	...	...	...	...	...	...	...	...
Ahmednagar	...	...	...	...	...	...	...	...
East Khandesh	...	...	...	...	...	...	...	...
West Khandesh	...	...	...	...	...	...	...	...
Nasik	...	...	...	...	...	...	...	...
Poona	...	...	...	...	...	...	...	...
Satara (North)	...	...	...	...	...	...	...	...
Sholapur	...	...	...	...	...	...	...	...
Belgaum	...	...	...	...	...	...	...	...
Bijapur	...	...	...	...	...	...	...	...
Dharwar	...	...	...	...	...	...	...	...
Kanara	...	...	...	...	...	...	...	...
Kolaba	...	...	...	...	...	...	...	...
Ratnagiri	...	...	...	...	...	...	...	...
Bombay Suburban District...	...	...	...	...	...	...	...	...
Bombay City	...	...	...	...	...	...	...	...
Banaskantha	...	...	...	...	...	...	...	...
Sabarkantha	...	...	...	...	...	...	...	...
Mehsana	...	...	...	...	...	...	...	...
Amreli	...	...	...	...	...	...	...	...
Baroda	...	...	...	...	...	...	...	...
Dangs	...	...	...	...	...	...	...	...
Kolhapur	...	...	...	...	...	...	...	...
Satara (South)	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	...
Total for 1950-51	130	46	124	...	...	*8,375	2,675	...
Total for 1949-50	...	24	547	29	...	681	1,331	...
Total for 1948-49	1	218	186	11	...	231	597	...

\*The deaths from Rinderpest alone were reported to be 16,827 among sheep and goats.

I—contd.

[illegible]

TABLE

Name of the State.		Cats.					
		Pasteurellosis in cats	Undiagnosed diseases in cats	Epizootic Enzootics in cats.	Feline typhoid.	Total.	Other causes.
1	2	53	54	55	56	57	58
Ahmedabad	...	...	...	...	...	...	...
Broach and Panch Mahals	...	...	...	...	...	...	...
Kaira	...	...	...	...	...	...	...
Surat	...	...	...	...	...	...	...
Thana	...	...	...	...	...	...	...
Ahmednagar	...	...	...	...	...	...	...
East Khandesh	...	...	...	...	...	...	...
West Khandesh	...	...	...	...	...	...	...
Nasik	...	...	...	...	...	...	...
Poona	...	...	...	...	...	...	...
Satara (North)	...	...	...	...	...	...	...
Sholapur	...	...	...	...	...	...	...
Belgaum	...	...	...	...	...	...	...
Bijapur	...	...	...	...	...	...	...
Dharwar	...	...	...	...	...	...	...
Kanara	...	...	...	...	...	...	...
Kolaba	...	...	...	...	...	...	...
Ratnagiri	...	...	...	...	...	...	...
Bombay Suburban District	...	...	...	...	...	...	...
Bombay City	...	...	...	...	...	...	...
Banaskantha	...	...	...	...	...	...	...
Sabarkantha	...	...	...	...	...	...	...
Mehseza	...	...	...	...	...	...	...
Amreli	...	...	...	...	...	...	...
Baroda	...	...	...	...	...	...	...
Dangs	...	...	...	...	...	...	...
Kolhapur	...	...	...	...	...	...	...
Satara (South)	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...
Total for 1950-51	...	...	...	...	...	...	...
Total for 1949-50	...	...	...	...	...	...	...
Total for 1948-49	...	...	...	...	12	12	...

к Вк Qa 8. - 5a

TABLE

*Summary of Results of Preventive Inoculations in the*

District Bombay State.	Name of disease against which inoculation was under- taken.	Method of inoculation or vaccination.	Source of Product.	Number of outbreaks in which inocula- tion was under- taken.
1	2	3	4	5
Infected Villages	Rinderpest	Serum alone	Indian Veterinary Research Institute,	296
		Vaccination	Goat Virus Producing Stations.	977
		Sero-Vaccination.	Indian Veterinary Research Institute and Goat Virus Producing Stations.	384
			Total	1,657
Clean Villages	Rinderpest	Serum alone	Indian Veterinary Research Institute.	250
		Vaccination	Goat Virus Producing Stations.	728
		Sero-Vaccination.	Indian Veterinary Research Institute and Goat Virus Producing Stations.	856
			Total	1,834
Infected Villages	Fam. hemorrhagic Septicemia.	Serum alone	Indian Veterinary Research Institute.	121
		Vaccination	S. S. I. and Indian Veterinary Research Institute.	1,510
			Total	1,631

## II

*Bombay State during the year 1950-51.*

Number of villages affected in the outbreaks.	Bovine population of the affected villages.	Number of animals which died uninoculated in course of outbreaks.			Number of animals inoculated.			Number of inoculated animals which died of the disease.			Remarks.
		Bovines.	Equines.	Others.	Bovines.	Equines.	Others.	Bovines.	Equines.	Others.	
6	7	8	9	10	11	12	13	14	15	16	17
285	1,68,760	43	...	3,314	1,469	...	3,824	...	...	360	
963	4,30,095	7,500	...	576	2,64,627	...	739	181	...	4	
378	2,61,008	57	...	15,418	4,309	...	34,889	...	...	902	
1,626	8,59,848	7,600	...	19,308	2,70,305	...	59,442	181	...	1,256	
.....	1,39,285	...	...	...	275	...	...	...	...	...	
.....	3,07,203	...	...	...	1,19,804	...	...	...	...	...	
.....	2,15,979	...	...	...	*75,919	...	1,714	...	...	...	
.....	6,61,767	...	...	...	1,95,998	...	1,714	...	...	...	
169	1,11,260	868	...	448	31,849	...	3,057	...	...	28	
1,599	10,35,722	9,889	...	951	3,31,954	...	12,299	90	...	10	
1,768	11,36,972	10,257	...	1,399	3,63,303	...	15,855	90	...	38	

\* This number includes 26,539 inoculations carried out in the Bombay City, by the staff of the Municipality.

TABLE

District Bombay State.	Name of disease against which inoculation was under- taken.	Method of inoculation or vaccination.	Source of Product.	Number of outbreaks in which inocula- tion was under- taken.
1	2	3	4	5
Clean Villages	Hæmorrhagic- Septicæmia.	Serum alone	Indian Veterinary Research Institute.	39
		Vaccination	Indian Veterinary Research Institute, and S. S. I.	409
			Total ...	448
Infected Villages	Black-Quarter.	Vaccination	Indian Veterinary Research Institute and S. S. I.	1,285
			Total ...	1,285
Clean Villages	Black Quarter.	Vaccination	Indian Veterinary Research Institute and S. S. I.	415
			Total ...	415
Infected Villages	Anthrax	Serum alone	Indian Veterinary Research Institute.	91
		Vaccination	Do.	80
			Total ...	101
Clean Villages	Anthrax	Serum alone	Indian Veterinary Research Institute.	2
		Vaccination	Do.	1
			Total ...	3

## II—contd.

Number of villages affected in the outbreaks.	Bovine population of the affected villages.	Number of animals which died un inoculated in course of outbreaks.			Number of animals inoculated.			Number of inoculated animals which died of the disease.			Remarks.
		Bovine.	Equine.	Others.	Bovine.	Equine.	Others.	Bovine.	Equine.	Others.	
6	7	8	9	10	11	12	13	14	15	16	17
...	24,188	...	...	...	279	...	822	...	...	...	
.....	1,48,568	...	...	...	54,544	...	436	...	...	...	
.....	1,72,721	...	...	...	54,823	...	1,238	...	...	...	
1,322	8,60,672	5,438	...	23	8,09,845	...	1,167	23	...	...	
1,322	8,60,672	5,438	...	23	8,09,845	...	1,167	23	...	...	
.....	2,98,685	...	...	...	56,676	...	...	...	...	...	
.....	2,98,685	...	...	...	56,676	...	...	...	...	...	
25	15,520	94	...	...	3,50	...	...	...	...	...	
77	44,471	382	...	882	10,410	...	6,184	...	...	125	
102	69,991	426	...	882	13,919	...	6,184	...	...	125	
.....	27,000	...	...	...	1,141	...	...	...	...	...	
.....	.....	...	...	...	195	...	...	...	...	...	
.....	27,000	...	...	...	1,336	...	...	...	...	...	

TABLE

District Orissa State	Name of disease against which inoculation was under- taken	Method of inoculation or vaccination	Source of Product	Number of outbreaks in which inocula- tion was un-er- taken
1	2	3	4	5
Infected Villages	Sheep Pox	Vaccination	Indian Veterinary Research Institute	15
			Total	15
Clean Villages	Sheep Pox	Vaccination	Indian Veterinary Research Institute	3
			Total	3
Infected Villages	Fowl Pox	Vaccination	Indian Veterinary Research Institute	2
			Total	2
Clean Villages	Fowl Pox	Vaccination	Indian Veterinary Research Institute.	4
			Total	4
Infected Villages	Fowl Cholera	Vaccination	Indian Veterinary Research Institute.	1
			Total	1

II—contd.

Number of villages affected in the outbreaks	Bovine population of the affected villages	Number of animals which died un inoculated in course of outbreaks			Number of animals inoculated			Number of inoculated animals which died of the disease			Remarks
		Bovines	Equines	Others	Bovines	Equines	Others	Bovines	Equines	Others	
7	8	9	10	11	12	13	14	15	16	17	
10	2 655		633			6,851			135		
20	5		633			6,851			135		
	1 760					3,150					
	1 760		..			3,150			.		
2	300					288		.	..		
2	300		.	.		288	.		.		
	642			.		490	.		.		
..	642	.		.		490			-		
1				1		72					
1	..	..	.	1		72	..		.		

TABLE

District Bombay State.	Name of disease against which inoculation was under- taken.	Method of inoculation or vaccination.	Source of Product.	Number of outbreaks in which inocula- tion was under- taken.
1	2	3	4	5
Clean Villages	Fowl Cholera.	Vaccination	Indian Veterinary Research Institute.	5
			Total	5
Infected Villages	Ranikhet Disease.	Vaccination	Ranikhet Disease Vaccine Laboratory.	40
			Total	40
Clean Villages	Ranikhet Disease.	Vaccination	Ranikhet Disease Vaccine Laboratory.	78
			Total	78
			Grand Total	7,037

## Abbreviations:—

- (1) I. V. R. I. = Indian Veterinary Research Institute, Izatnagar and Mukteshwar  
 (2) G. V. P. Ss. = Goat Virus Producing Stations, Bombay, Jalgaon, Dharwar and  
 Baroda.  
 (3) R.D.V.L. = Ranikhet Disease Vaccine Laboratory, Poona.  
 (4) S.S.I. = Serum Institute, Bombay State.

## II.—concl'd.

Number of villages affected in the outbreaks.	Bovine population of the affected villages.	Number of animals which died uninoculated in course of outbreaks.			Number of animals inoculated.			Number of inoculated animals which died of the disease.			Remarks.
		Bovines.	Equines.	Others.	Bovines.	Equines.	Others.	Bovines.	Equines.	Others.	
6	7	8	9	10	11	12	13	14	15	16	17
.....	2,650	...	...	...	...	...	811	...	...	...	
.....	2,650	...	...	...	...	...	811	...	...	...	
42	27,018	...	...	1,747	...	...	10,201	...	...	98	
42	27,618	...	...	1,747	...	...	10,201	...	...	98	
.....	39,020	...	...	...	...	...	20,699	...	...	...	
...	39,029	...	...	...	...	...	20,699	...	...	...	
4,888	41,75,310	23,721	...	23,893	19,66,205	...	107,653	394	...	1,582	

TABLE

Statement showing the number of animals treated and castrated at during the

State.	Number of Veterinary Institutions.	Number of Veterinary Assistant Surgeons and stockmen employed.	Number of in-patients treated during the year.				Number of out-durings	
			Bovines.	Equines.	Others.	Total.	Bovines.	Equines.
1	2	3	4	5	6	7	8	9
Ahmedabad	...	...	...	...	...	...	...	...
Broach and Panch	...	...	...	...	...	...	...	...
Mahals.	...	...	...	...	...	...	...	...
Kaira	...	...	...	...	...	...	...	...
Surat	...	...	...	...	...	...	...	...
Thana	...	...	...	...	...	...	...	...
Ahmednagar	...	...	...	...	...	...	...	...
East Khandesh	...	...	...	...	...	...	...	...
West Khandesh	...	...	...	...	...	...	...	...
Nasik	...	...	...	...	...	...	...	...
Poona	...	...	...	...	...	...	...	...
Satara (North)	...	...	...	...	...	...	...	...
Sholapur	...	...	...	...	...	...	...	...
Belgaum	...	...	...	...	...	...	...	...
Bijapur	...	...	...	...	...	...	...	...
Dharwar	...	...	...	...	...	...	...	...
Kanara	...	...	...	...	...	...	...	...
Kolaba	...	...	...	...	...	...	...	...
Ratnagiri	...	...	...	...	...	...	...	...
Banaskantha	...	...	...	...	...	...	...	...
Sabarkantha	...	...	...	...	...	...	...	...
Mehsana	...	...	...	...	...	...	...	...
Amreli	...	...	...	...	...	...	...	...
Baroda	...	...	...	...	...	...	...	...
Danga	...	...	...	...	...	...	...	...
Kolhapur	...	...	...	...	...	...	...	...
Satara (South)	...	...	...	...	...	...	...	...
Bombay suburban	...	...	...	...	...	...	...	...
Total for 1960-61	254	254	3,861	604	227	4,692	3,27,459	23,795
Total for 1949-50	252	252	3,730	554	251	4,535	3,14,344	23,566
Total for 1948-49	152 (2 Br- anch V. Ds.)	154	2,965	378	204	3,547	2,90,115	21,632

\* These figures do not include the total income and expenditure of



TABLE

Statement showing the number of animals treated and castrated by  
State, during the

State.	Number of Veterinary Assistant Surgeons and stockmen employed.	Number of villages visited by Veterinary Assistant Surgeons and stockmen.	Castrations performed.			
			Bovines.	Equines.	Others.	Total.
1	2	3	4	5	6	7
Ahmedabad	...	...	...	...	...	...
Broach and Panch Mahals	...	...	...	...	...	...
Kaira	...	...	...	...	...	...
Surat	...	...	...	...	...	...
Thana	...	...	...	...	...	...
Ahmednagar	...	...	...	...	...	...
East Khandesh	...	...	...	...	...	...
West Khandesh	...	...	...	...	...	...
Nasik	...	...	...	...	...	...
Poona	...	...	...	...	...	...
Satara (North)	...	...	...	...	...	...
Sholapur	...	...	...	...	...	...
Belgaum	...	...	...	...	...	...
Bijapur	...	...	...	...	...	...
Dharwar	...	...	...	...	...	...
Kanara	...	...	...	...	...	...
Kolaba	...	...	...	...	...	...
Batnagiri	...	...	...	...	...	...
Benaskantha...	...	...	...	...	...	...
Sabarkantha...	...	...	...	...	...	...
Mehsana	...	...	...	...	...	...
Amreli	...	...	...	...	...	...
Baroda	...	...	...	...	...	...
Dangs	...	...	...	...	...	...
Kolhapur	...	...	...	...	...	...
Satara (South)	...	...	...	...	...	...
Bombay Suburban	...	...	...	...	...	...
Total for 1950-51	490	21,439	13,652	60	651	14,363
Total for 1949-50	417	34,076	30,086	122	1,187	31,395
Total for 1948-49	293	22,649	31,298	134	1,031	33,513

*Veterinary Assistant Surgeons and Stockmen on tour in the Bombay year 1950-51.*

[illegible]



## TABLE V.

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*Statement showing the number of animals treated and castrated and Livestock Population in the Bombay State during the year 1950-51.*

This statement has been abolished under Bombay Government Endorsement No. 6890-A/33, dated 25th June 1941, Revenue Department, Bombay

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TABLE

Statement showing the number of approved bulls at stud

Name of District.	Number of approved bulls at stud.									Casualties during the year 1950-51.		
	Present on 1st April 1950.			Obtained during the year 1950-51.						Property of Government.	Property of Local Bodies.	Others.
	Property of Government.	Property of Local Bodies.	Others.	Number.			Average Price paid per head.					
				Property of Government.	Property of Local Bodies.	Others.	Property of Government.	Property of Local Bodies.	Others.			
1	2	3	4	5	6	7	8	9	10	11	12	13
							Rs.	Ra.	Rs.			
Baraskantha	...	...	...	3	...	...	200	...	...	...	...	...
Sabarkantha	...	1	...	3	...	...	...	...	...	...	...	...
Mehsana	...	...	...	19	...	...	...	...	...	...	...	...
Amreli	...	...	...	...	...	...	...	...	...	...	...	...
Baroda	...	1	...	...	...	...	...	...	...	...	...	...
Dangs	...	6	...	15	...	...	300	...	...	1	...	...
Ammedabad	...	98	...	29	...	...	296	R	...	28	...	...
Kaira	...	20	...	11	...	...	319	...	...	8	...	...
Panchmahals	...	14	...	16	...	...	225	...	...	...	...	...
Broach	...	4	...	...	6	11	...	250	...	23	...	...
Surat	...	64	23	...	14	...	18	...	...	24	20	1
Thana and Bombay	...	69	...	12	...	...	400	G	...	16	...	...
Suburban.	...	...	...	...	...	...	424	D	...	...	...	...
Bombay City	...	...	...	...	...	...	58	Kh & G Dn.	...	...	...	...
Ammednagar	...	238	...	19	...	...	330		...	56	...	...
East Khandesh	...	178	...	22	...	...	600	...	...	48	...	...
West Khandesh	...	173	8	...	61	...	511	...	...	41	8	...
Nasik	...	163	...	48	...	7	475	Kh	...	31	...	...
Poona	...	94	...	8	...	...	50	D	...	15	...	...
Balaria North	...	118	...	19	...	...	580	...	...	31	...	...
Sholapur	...	221	...	27	...	...	530	...	...	77	...	...
Kolaba	...	24	...	13	...	...	313	...	...	4	...	...
Belgaum	...	171	...	73	...	...	659	...	...	13	...	...
Bijapur	...	95	13	...	63	...	650	...	...	5	6	...
Dharwar	...	333	1	...	91	...	650	to	...	53	3	...
Ranara	...	5	18	...	10	2	200	135	...	...	9	...
Ratnagiri	...	7	...	...	...	1	...	...	...	6	...	...
Balaria South	...	49	...	9	...	...	584	...	...	16	...	...
Kolhapur	...	9	...	...	...	...	...	...	...	8	...	...
Total for 1950-51	...	309	67	...	588	8	...	...	...	506	46	1
Total for 1949-50	...	1	10	1	1,387	21	...	...	...	577	63	1
Total for 1948-49	...	1,111	124	4	793	21	...	...	...	520	46	8

## VI-A.

*in the State of Bombay during the year 1950-51.*

Balance in hand on 31st March 1951.				Net cost for the year for the issue and maintenance of stud bulls.				Population of cows over three years according to Cens.	Number of bulls. Required to be maintained at one per hundred cows.	Short of requirements.	Number of cows covered during the year.	Remarks.
Property of Government.	Property of Local Bodies.	Others.	Total.	Property of Government.	Property of Local Bodies.	Others.	Total.					
14	15	16	17	18	19	20	21	22	23	24	25	26
3	...	...	3	...	...	...	...	1,03,869	1,061	1,058	...	Abbrevia-
4	...	...	4	...	...	...	...	1,00,672	1,001	997	61	tions:—
19	...	...	19	...	...	...	...	91,531	916	897	...	K Kank-
1	...	...	1	...	...	...	...	18,834	184	184	...	rel.
20	...	...	20	...	...	...	...	48,456	485	484	...	G Gir.
59	...	...	59	...	...	...	...	3,588	35	16	800	
...	...	...	...	...	...	...	...	54,963	590	491	4,000	
23	...	...	23	...	...	...	...	35,735	358	395	805	D=Dangi.
30	...	...	30	...	...	...	...	1,57,567	1,578	1,516	1,200	Ch = Khar-
26	6	11	43	...	...	...	...	37,217	372	329	880	har.
34	3	17	74	...	...	...	...	1,33,786	1,338	1,264	4,000	
65	...	...	65	...	...	...	...	1,08,114	1,084	1,031	393	
...	...	...	...	...	...	...	...	1,339	12	15	...	
...	...	...	...	...	...	...	...	1,196	16	...	...	
196	...	...	196	...	...	...	...	1,96,004	1,960	1,764	2,175	
152	...	...	152	...	...	...	...	1,07,129	1,071	919	1,441	
193	...	...	190	...	...	...	...	1,06,531	1,065	875	3,725	
203	...	7	210	...	...	...	...	1,35,618	1,356	1,146	1,679	
37	...	...	37	...	...	...	...	1,68,070	1,681	1,594	574	
136	...	...	136	...	...	...	...	1,08,524	1,085	949	2,725	
474	...	...	174	...	...	...	...	1,40,525	1,405	1,231	3,072	
37	...	...	37	...	...	...	...	1,05,436	1,054	1,017	215	
231	...	...	231	...	...	...	...	1,00,809	1,009	713	1,933	
153	8	...	161	...	...	...	...	86,925	89	703	2,004	
422	1	...	430	...	...	...	...	1,15,108	1,191	761	5,541	
15	11	...	26	...	...	...	...	61,720	617	621	290	
1	...	1	2	...	...	...	...	1,41,453	1,415	1,413	29	
42	...	...	42	...	...	...	...	59,635	597	755	1,156	
1	...	...	1	...	...	...	...	71,416	714	713	260	
2,371	29	86	2,456	3,12,634	...	...	3,12,634	26,34,604	26,347	23,891	40,781	
2,309	67	...	2,476	3,03,639	...	...	3,03,639	22,22,969	22,210	19,913	44,767	
1,619	109	1	1,629	3,22,789	...	...	3,22,789	17,75,462	17,733	16,134	59,819	

TABLE

Statement showing the number of approved buffalo bulls at stud

Number of approved bulls at stud											Casual the
Name of District.	Present on 1st April 1950.			Obtained during the year 1950-51.							Property of Government.
	Property of Government.	Property of Local Bodies.	Others.	Number.			Average price paid per head.				
				Property of Govern- ment.	Property of Local Bodies.	Others.	Property of Govern- ment.	Property of Local Bodies.	Others.		
1	2	3	4	5	6	7	8	9	10	11	
							Rs.	Rs.	Rs.		
Banaskantha	...	...	...	...	1	...	...	...	...	...	...
Sabarkantha	...	...	...	...	2	...	...	...	...	...	...
Mehsana	...	...	...	...	...	...	...	...	...	...	...
Amreli	...	...	...	...	...	...	...	...	...	...	...
Baroda	...	...	...	...	...	...	...	...	...	...	...
Dangs	...	...	...	...	...	...	...	...	...	...	...
Ahmedabad	...	...	...	...	...	...	...	...	...	...	...
Kaira	...	...	...	...	3	...	...	...	...	...	...
Panch Mahals	...	...	...	...	1	...	...	...	...	...	...
Broach	...	1	...	...	...	14	...	...	...	...	...
Burai	...	7	...	...	1	...	...	...	...	...	5
Thana	...	...	...	...	...	...	...	...	...	...	...
Bombay Suburban	...	...	...	...	...	...	...	...	...	...	...
Bombay City	...	...	...	...	...	...	...	...	...	...	...
Ahmednagar	...	4	...	...	...	...	...	...	...	...	...
East Khandesh	...	3	...	...	...	...	...	...	...	...	...
West Khandesh	...	15	5	...	7	...	...	...	...	...	9
Nasik	...	...	...	...	...	...	...	...	...	...	...
Poona	...	...	...	...	...	...	...	...	...	...	...
Satara North	...	2	...	...	...	...	...	...	...	...	...
Sholapur	...	12	...	...	2	...	400	...	...	...	3
Kolaba	...	...	...	...	...	...	...	...	...	...	...
Belgaum	...	5	...	...	9	...	600	...	...	...	1
Bijapur	...	2	...	...	...	...	...	...	...	...	1
Dharwar	...	13	...	...	4	1	550	...	...	...	4
Kanara	...	4	1	...	...	...	...	...	...	...	...
Ratnagiri	...	...	...	...	...	...	...	...	...	...	...
Satara South	...	...	...	...	...	...	...	...	...	...	...
Kolhapur	...	...	...	...	...	...	...	...	...	...	...
Total for 1950-51	72	6	...	...	36	1	14	...	...	...	25
Total for 1949-50	58	7	...	...	46	4	...	...	...	...	29
Total for 1948-49	45	7	...	...	26	...	...	...	...	...	18



TABLE VI-C

*Statement showing number of approved Horse and Donkey  
Stallions at stud in the Bombay State, during 1950-51*

The Horse and Donkey breeding operations are not undertaken in the Bombay State at present and hence the number of Horse and Donkey Stallions at stud is 'Nil'.

TABLE VII.

*Abstract of Particulars regarding Cattle Fairs and Shows held during the years 1950-51 in the Bombay State.*

State	No. of cattle fairs and shows held	Total No. of stock present										Average price of animals sold										Private sales obtained					
		Bulls	Bullocks	Cows	Young Stock	Bullaloes	Cattle	Others	Bulls	Bullocks	Cows	Bullaloes	Cattle	Others	Bulls	Bullocks	Cows	Bullaloes	Cattle	Others	Refr. No. of animals that comprised	From Government Funds	From other sources	Lot	Amount of the actually awarded		
Bombay	Total for 1950-1951	78	65070	118109	31477	31163	7764	3 1917	20 to 100	100 to 1000	1000 to 10000	10000 to 100000	100000 to 1000000	1000000 to 10000000	10000000 to 100000000	100000000 to 1000000000	1000000000 to 10000000000	10000000000 to 100000000000	100000000000 to 1000000000000	1000000000000 to 10000000000000	13850	0 613-77	102-8	7-11	621 25 6 0 271	0 0 57-72	0 0 45
	Total for 1949-1950	68	63323	90193	18540	2799	4631	2410	20 to 100	100 to 1000	1000 to 10000	10000 to 100000	100000 to 1000000	1000000 to 10000000	10000000 to 100000000	100000000 to 1000000000	1000000000 to 10000000000	10000000000 to 100000000000	100000000000 to 1000000000000	1000000000000 to 10000000000000	11143	0 61471	105-1	7-59	60 6 6 6 9	0 0 54 11	0 1 2 120
Total for 1948-1949	60	43649	7000	14370	17220	3429	1195	150 to 1000	100 to 500	500 to 1000	1000 to 10000	10000 to 100000	100000 to 1000000	1000000 to 10000000	10000000 to 100000000	100000000 to 1000000000	1000000000 to 10000000000	10000000000 to 100000000000	100000000000 to 1000000000000	1000000000000 to 10000000000000	7711	0 0 0 0 1	0 0 150 1	7 11	0 0 0 0 1	0 0 150 1	0 0 8 0

TABLE

*Statistics of Livestock slaughtered in recognised  
from 1st July 1949*

Name of District.	Number of recognised slaughter					
	Cattle and Buffaloes.		Sheep and Goats.		Pigs.	
	Government.	Local Bodies.	Government.	Local Bodies.	Government.	Local Bodies.
1	2	3	4	5	6	7
1. Banaskantha	...	...	...	2	...	...
2. Sabarkantha	...	...	...	...	...	...
3. Mehsana	...	...	...	...	...	...
4. Amreli	...	...	...	2	...	...
5. Baroda	...	...	...	2	...	...
6. Dangs	...	...	...	...	...	...
7. Ahmedabad	2	...	...	*1	...	...
8. Kaira	...	3	...	3	...	...
9. Panch Mahals	...	†2	...	...	...	...
10. Broach	...	3	...	3	...	...
11. Surat	2	2	2	12	...	...
12. Thana	...	1	...	4	...	...
13. Bombay Suburban	...	2	1	4	...	...
14. Bombay City	...	2	...	3	...	1
15. Ahmednagar	...	2	1	3	...	...
16. East Khandesh	...	7	...	13	...	...
17. West Khandesh	...	4	...	6	...	...
18. Nasik	...	7	1	8	...	...
19. Poona	...	4	1	7	...	83
20. Satara North**	...	...	...	...	...	...
21. Sholapur	...	1	...	3	...	...
22. Kolaba	...	1	...	1	...	...
23. Belgaum††	...	3	1	6	...	...
24. Bijapur	...	7	...	15	...	...
25. Dharwar	...	6	...	10	...	...
26. Kanara	...	2	...	2	...	...
27. Ratnagiri	...	...	...	1	...	...
28. Satara South	...	...	1	2	...	...
29. Kolhapur	...	3	5	14	...	...
Total	4	62	13	127	...	4

## VIII.

*slaughter houses in the Bombay State  
to 30th June 1950.*

houses for.		Number of un-licensed slaughter houses.	Number of animals slaughtered.			
Others.			Cows.	Bulls and Bullocks.	Calves.	Buffaloes.
Government.	Local Bodies.					
8	9	10	11	12	13	14
...	...	15	...	500	...	320
...	...	...	...	...	...	...
...	...	...	...	...	...	8
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	16	4183	6443	25	5778
...	...	...	...	80	...	3419
...	...	...	1150	1836	...	1483
...	...	...	...	623	...	2478
...	...	38	58	942	...	3237
...	...	...	231	154	...	1273
...	...	1	15	350	...	5031
...	...	...	63743	...	...	9154
...	...	...	31	2943	...	611
...	...	27	3527	4882	457	1683
...	...	...	980	3637	200	163
...	...	...	742	2303	1	471
...	...	26	1711	2697	...	683
...	...	...	...	...	...	...
...	...	6	737	1611	...	188
...	...	...	7	10	...	...
...	...	8	...	...	...	15
...	...	34	150	257	...	57
...	...	110	2343	4351	101	234
...	...	...	46	197	...	...
...	...	...	...	...	...	766
...	...	40	...	...	...	...
...	...	...	...	...	...	...
...	...	311	15904	33225	784	6366
...	...	...	63743	...	...	...

TABLE

Name of District.	Number of animals slaughtered— <i>contd.</i>				Slaughtered
	Sheep.	Goats.	Pigs.	Other Animals.	Cattle.
	15	16	17	18	19
1. Banaskantha ...	1495	9301	...	...	Rs. 24.
2. Sabarkantha ...	...	...	...	...	.....
3. Mehsana ...	...	...	...	...	.....
4. Amreli ...	4757	9130	...	...	.....
5. Baroda ...	8485	41278	...	...	.....
6. Dangs ...	...	...	...	...	.....
7. Ahmedabad ...	95925	77845	...	...	As. 8 to Rs. 1½.
8. Kaira ...	890	5644	...	...	As. 1 to As. 4.
9. Panch Mahals ...	146	3347	...	...	Anna 1.
10. Broach ...	3839	20555	...	...	As. 2½ to As. 8.
11. Surat ...	22825	110440	87	6	As. 2 to As. 9.
12. Thana ...	27728	25185	...	...	.....
13. Bombay Suburban ...	2027	27013	...	...	Rs. 2½.
14. Bombay City ...	1079869	...	9596	...	Re. 1 to Rs. 1½.
15. Ahmednagar ...	3514	23618	...	1	As. 8.
16. East Khandesh ...	6192	28376	...	...	As. 2 to As. 5.
17. West Khandesh ...	10493	18803	...	...	As. 1 to As. 5.
18. Nasik ...	10279	40211	...	4	As. 8 to Rs. 1½.
19. Poona ...	61939	117130	500	749	As. 2 to Rs. 3.
20. Satara North** ...	...	...	...	...	.....
21. Solapur ...	25284	56355	...	...	As. 8 to Rs. 1½.
22. Kolaba ...	1216	475	...	...	Rs. 2.
23. Belgaum†† ...	...	884	...	...	.....
24. Bijapur ...	7164	23839	...	...	As. 3 to As. 6.
25. Dhawar ...	35554	23343	...	...	As. 2 to Rs. 2.
26. Kanara ...	937	1409	...	...	As. 8 to As. 14.
27. Ratnagiri ...	615	1803	...	...	Anna ½.
28. Satara South ...	19961	...	Q	Q	Q
29. Kolhapur ...	81730	...	...	...	As. 8.
Total ...	331304	665988	10183	762	.....
	1181560				

VIII--*contd.*

fee per head.				Remarks.
Buffaloes.	Sheep and Goats.	Pigs.	Others.	
20	21	22	23	
Rs. 2½.	As. 2½.	...	...	* Jhatka Slaughter House.
.....	.....	...	...	† 5 licenses have been issued by Dhandhuka Municipality. There are 5 Butchers at Barwala and 1 Butcher at Dholera. These Butchers have not maintained any accounts.
.....	.....	...	...	
.....	.....	...	...	
.....	As. 2.	...	...	‡ Out of which 1 at Dohad is for all animals.
.....	.....	...	...	
.....	.....	...	...	
Rs. ½ to Rs. 1½.	As. 2 to As. 8.	...	...	§ These are private slaughter houses.
As. 1 to As. 4.	As. ½ to As. 2.	...	...	
As. 1 to As. 8.	Anna ½.	...	...	
As. 2½ to As. 8.	As. 1½ to As. 2.	...	...	** Information is not received.
As. 2 to As. 9.	As. 2 to As. 9.	...	...	
As. 8 to Rs. 2.	As. 2½.	...	...	
Rs. 7½ to Rs. 17½.	As. 2 to As. 4.	...	...	†† Information is partly received.
Rs. 15 to Rs. 17½.	As. 3 to As. 4.	Rs. 1½.	...	
As. 8.	As. 2.	...	...	
As. 1 to As. 4.	As. 1 to As. 2½.	As. 1½.	Anna 1.	Q Information is not available.
As. 2 to As. 8.	As. ½ to As. 8.	...	...	
As. 8 to Rs. 1½.	As. 1 to As. 4.	...	...	
As. 2 to Rs. 3.	As. 4 to As. 8.	...	...	As. 3.
.....	.....	...	...	
As. 9 to Rs. 1½.	As. 1 to As. 3.	As. 3.	As. 3.	
Rs. 2.	As. 4.	...	...	As. 3.
.....	.....	...	...	
As. 3 to As. 5.	As. 1½ to As. 3.	...	...	
As. 1 to As. 7.	As. 1 to As. 8.	...	...	As. 3.
As. 8.	As. 2 to As. 7.	...	...	
Anna ½.	Anna ½.	...	...	
.....	.....	...	...	As. 3.
.....	As. ½ to As. 1.	...	...	
.....	.....	...	...	

TABLE IX.

Statement showing the cost of Animal Husbandry and Veterinary Science Department in the Bombay State, during the financial year 1950-51.

Major Head.	Amount.			Remarks.
	Provincial. 2	Local. 3	Total. 4	
1				
<i>41—Veterinary Provincial.</i>				
1. A—Superintendence	Rs. a. p. 4,53,409 0 0	Rs. a. p. .....	Rs. a. p. 4,53,409 0 0	
2. B—Veterinary Education and Research	5,69,554 0 0	.....	5,69,554 0 0	
3. C—Subordinate Establishment	7,73,941 0 0	4,65,117 0 0	12,38,458 0 0	
4. D—Hospitals and Dispensaries	6,71,509 0 0	.....	6,71,509 0 0	
5. E—Breeding Operations	9,01,444 0 0	.....	9,01,444 0 0	
6. F—Other Charges	3,25,740 0 0	.....	3,25,740 0 0	
7. G—Special Development Programme	26,814 0 0	.....	26,814 0 0	
8. H—Post-War Reconstruction and Development Programme	20,00,402 0 0	.....	20,00,402 0 0	
9. J—Charges in England	371 0 0	.....	371 0 0	
Total	51,93,564 0 0	4,65,117 0 0	55,97,701 0 0	
Deduct—Government grants to Veterinary Hospitals and Dispensaries.	.....	-51,000 0 0	-51,000 0 0	
Establishment charges recoverable from other Government Departments, etc. Contribution from the Government of India on account of the work in connection with the Livestock Importation Act.	-14,749 0 0	.....	-14,749 0 0	
Net Total	51,17,595 0 0	4,14,117 0 0	55,31,952 0 0	

**TABLE X.**  
**STRENGTH OF STAFF EMPLOYED AND HOW THEY ARE DISTRIBUTED FOR THE YEAR 1950-51.**  
*Veterinary Section.*

State.	How employed.	Whether paid from Bombay State, or Local Fund.	Indian Veterinary Service Officers.	Bombay Veterinary Service Officers.				Subordinate Veterinary Officers.				Remarks.
				Special post above Class I.	Class I.	Class II.	Miscellaneous.	Lecturers, Graduate Assistants and Hospital Surgeons.	Veterinary Assistant Surgeons and Veterinary Inspectors.	Stockmen.		
1	2	3	4	5	6	7	8	9	10	11	12	
Bombay	(1) Administration	Bombay State	.....	1	...	8	1	.....	.....	.....	.....	
Do.	(2) Education and Research	Do.	.....	...	6	10	.....	15	.....	1	.....	
Do.	(3) Glanders and Farcy Department.	Do.	.....	...	...	1	.....	.....	7	.....	.....	
Do.	(4) In Districts	Do.	.....	...	...	...	.....	.....	187	303	.....	
Do.	(5) Manufacture of Sera and Vaccines.	Do.	.....	...	1	1	.....	.....	7	5	.....	
Do.	(6) Artificial Insemination; Section, Poona.	Do.	.....	...	...	1	.....	2	.....	3	.....	
Do.	(7) Investigation of Diseases.	Do.	.....	...	1	2	.....	.....	.....	.....	.....	



TABLE XI-A

DOMINAY VILLIENAY COLLEGE

Results of Professional Examinations, 1950-51

Examination	Total Candidates			Percentage of Passes
	Examined	Passed in April Examination	Passed in Supplementary Examination	
<i>Degree Course</i>				
Bachelor of Science (Vet)	3			100
Third Year Science (Vet)	12			75
Second Year Science (Vet)	21	11		52
First Year Science (Vet)	41	23		56
Total	119	153		77.9

TABLE XI-B

DOMINAY VILLIENAY COLLEGE

Statement showing the change in the number of students in the year 1950-51

Sex	Year	Withdrawn during the year		New Enrollments		Remarks
		Number	Amount	Number	Amount	
		from College	from other sources	from College	from other sources	
<i>Degree Course</i>						
Bachelor of Science (Vet)	1	1		1		
Third Year Science (Vet)	1	1	31	7	18	
Second Year Science (Vet)	2	4	11	34	31	
First Year Science (Vet)	41	12	9	1	32	
Total	170	71	96	15	146	

\* 1 student left with College during the course of the year

† 17 students left the College for various reasons

TABLE XI-C.

## BOMBAY VETERINARY COLLEGE.

*Statement showing the number and nationality of students on the rolls at the end of the official year 1950-51.*

Caste.	Paying.	Indian States and other Governments' Scholars.	Bombay Government Scholars.	Total.	Remarks.
<i>Bachelor of Science (Vet.)</i>					
Hindu Brahmins ...	...	5	17	22	
Marathas ...	...	2	...	2	
Indian Christians ...	...	...	1	1	
Lingayats ...	...	...	2	2	
Jains ...	...	...	1	1	
Buddhists ...	...	2	...	2	
Other Hindus ...	1	8	8	12	
Total ...	1	17	24	42	
<i>Third year Science (Vet.)</i>					
Hindu Brahmins ...	2	5	28	30	
Other Hindus ...	...	4	3	7	
Muslims ...	...	1	...	1	
Total ...	2	10	26	38	
<i>Second Year Science (Vet.)</i>					
Hindu Brahmins ...	...	3	16	19	
Lingayats ...	...	...	3	3	
Other Hindus ...	...	3	4	7	
Indian Christians ...	...	1	...	1	
Muslims ...	...	...	1	1	
Total ...	...	7	24	31	
<i>First Year Science (Vet.)</i>					
Hindu Brahmins ...	...	4	20	24	
Marathas ...	...	...	1	1	
Lingayats ...	...	...	1	1	
Other Hindus ...	...	1	5	6	
Indian Christians ...	...	2	...	2	
Parsees ...	...	...	1	1	
Total ...	...	7	28	35	
Grand Total ...	3	41	102	146	

TABLE XI-D.

## BOMBAY VETERINARY COLLEGE.

*Financial Statement of the Bombay Veterinary College for the year 1950-51.*

Heads.	Budget Sanction.		Heads.	Actual Expenditure.	
	1949-50.	1950-51.		1949-50.	1950-51.
	Rs.	Rs.		Rs. a. p.	Rs. a. p.
Teaching staff	41,430	42,370	Teaching staff	89,040 0 0	86,442 0 0
Establishment	23,220	28,450	Establishment	24,127 0 0	29,317 0 0
Travelling and other allowances	36,530	46,380	Travelling and other allowances	34,063 0 0	55,355 0 0
Examination fees (Charged)	...	.....	Examination fees (Charged)	...	.....
Scholarships	73,500	52,000	Scholarships	65,382 0 0	50,490 0 0
Contingencies	20,000	21,500	Contingencies	33,151 0 0	24,747 0 0
Total	2,00,100	1,90,690	Total	1,99,541 0 0	1,55,352 0 0

TABLE XI-D—*contd.*

*Statement of College Receipts credited to Government.*

Heads	1949 50.		1950 51	
	Rs	a p.	Rs	a p.
Fees from students	...	...	18,245 0 0	10,738 0 0
Miscellaneous	...	...	4,298 8 0	2,508 0 0
Total	22,543 8 0		19,241 0 0	

BOMBAY VETERINARY COLLEGE.

Name of the course of instruction if more than one course is followed	Scholarship holders			Admitted during the year.			Number of Students.				Students admitted during the year classed by educational qualifications	Receipts	Total.	
	Scholarship holders	Others		Passed Final examination during the year	Failed to Pass Final examination.	In ordinary course.	Instructions prolonged by reason of ill health to pass	Remaining under instructions at the end of the year.	Higher qualifications					
Bombay Veterinary College ..	Diploma Course	..	..	27	8	146	..	..	95	..	Rs. a p	Rs. a p	Rs. a p.	
	Degree Course	94	1								10,788 0 0	2,503 0 0	13,241 0 0	

## Veterinary Colleges and Schools.

99

Total.

TABLE XI-E—continued

Veterinary Colleges and Schools	Expenditure.		Total amount of salaries and wages paid		
	Salaries of instructors	On other personnel	Total No.	of persons	of persons
	Rs.	Rs.	Rs.	Rs.	Rs.
Bombay Veterinary College	36,442 0 0	1,48,410 0 0	1,84,852 0 0	21	21

TABLE XII.

Financial Statement of the Bombay City and Harbour Veterinary Department, 1950-51.

Budget Head.	Allotment		Budget Head	Lapsed Balance
	1949-50	1950-51.		
	Rs.	Rs. and p.		
Pay of Officers	5,020 0 0	4,590 0 0	Pay of Officers	1950-51
Pay of Establishment...	19,860 0 0	19,160 0 0	Pay of Establishment...	1950-51
Allowances, Honoraria, etc.	19,520 0 0	21,470 0 0	Allowances, Honoraria, etc.	1950-51
Contingencies	16,400 0 0	16,670 0 0	Contingencies	1950-51
Total	60,800 0 0	61,920 0 0		

TABLE XII—*contd.**Receipts.*

	Heds.		Receipts.		Rs. a. p.
	1949-50.	1950-51.	Rs. a. p.	Rs. a. p.	
Charges for feeding and attendance	...	...	...	...	70 0 0
Miscellaneous	...	...	...	...	.....

TABLE XIII-A.

*Financial statement of the Disease Investigation Officer,  
Bombay State, for the year 1950-51.*

No separate table for the above is now attached as all the expenditure on the Scheme is now borne by the Bombay Government and as such it is included in the departmental expenditure in Table IX.

TABLE XIII-B.

*Statement showing the expenditure in connection with the Scheme  
for the Control of Ticks during the year 1950-51.*

No separate table for the above is now attached as all the expenditure on the Scheme for the Control of Ticks is now borne by the Bombay Government and as such it is included in the departmental expenditure in Table IX.

TABLE XIII-C.

*Financial statement of the office of the Assistant Disease Investigation Officer (Poultry), Bombay State, for the year 1950-51 (for the period it was functioning as a scheme subsidised by the Indian Council of Agricultural Research).*

Head.	Budget sanctioned.			Actual expenditure.		
	Rs.	a.	p.	Rs.	a.	p.
Pay of Officers ... ..	250	0	0	250	0	0
Pay of Establishment ... ..	30	0	0	50	10	0
Allowances and Honoraria, etc. ... ..	210	0	0	326	3	0
Contingencies ... ..	50	0	0	.....		
Total ... ..	540	0	0	626	13	0

The Scheme is entirely financed from Bombay Government Funds from 1st April 1950. The expenditure which relates to the period prior to 1st April 1950 was divided equally between the Indian Council of Agricultural Research and the Bombay Government.

TABLE XIII-D.

*Financial statement of the office of the Assistant Disease Investigation Officer (Sheep and Goats), Bombay State for the year 1950-51.*

Head.	Budget sanctioned.			Actual expenditure.		
	Rs.	a.	p.	Rs.	a.	p.
Pay of Officers ...	3,440	0	0	3,435	0	0
Pay of Establishment ...	1,100	0	0	1,062	12	0
Allowances and Honoraria, etc. ...	3,360	0	0	3,587	7	0
Contingencies ...	1,000	0	0	984	4	0
Total ...	8,900	0	0	9,049	7	0

The expenditure is divided equally between the Indian Council of Agricultural Research, New Delhi and Bombay Government.

TABLE XIII-E.

*Financial statement of the scheme for the Investigation of Mastitis in Bombay State for the year 1950-51.*

Head.	Budget sanctioned.			Actual expenditure.		
	Rs.	a.	p.	Rs.	a.	p.
Pay of Officers ...	.....			.....		
Pay of Establishment ...	.....			238	6	0
Allowances and Honoraria, etc. ...	.....			306	9	0
Contingencies ...	.....			1,368	0	0
Total ...	.....			1,907	15	0

50 per cent. of the recurrent expenditure is borne by the Indian Council of Agricultural Research, New Delhi.

## APPENDIX A.

*Statement showing the number of Premium Cows working under various schemes in State of Bombay.*

Serial No.	District.	Opening Balance i.e. on 1st April 1950.	Closing Balance i.e. on 31st March 1951.
1	Mehsana ... ..	.....	15
2	Ahmedabad ... ..	240	232
3	Kaira ... ..	24	37
4	Panch Mahals ... ..	.....	15
5	Broach ... ..	224	199
6	Surat ... ..	498	317
7	Thana and Bombay Suburban District ... ..	21	42
8	East Khandesh ... ..	358	352
9	West Khandesh ... ..	232	240
10	Nasik ... ..	335	350
11	Kolaba ... ..	33	31
12	Ahmednagar ... ..	441	417
13	Poona ... ..	165	164
14	Satara North ... ..	400	472
15	Satara South ... ..	93	112
16	Sholapur ... ..	934	900
17	Belgaum ... ..	110	145
18	Bijapur ... ..	103	119
19	Dharwar ... ..	453	481
20	Kanara ... ..	11	28
21	Ratnagiri ... ..	6	4
Total ...		4,777	4,705

## APPENDIX B.

*Statement showing the position of the application of the Bombay Livestock Improvement Act, 1933, in the State of Bombay.*

Serial No.	District.	Total No. of villages where Livestock Improvement Act has been applied up to 31st March 1950.	No. of villages where Livestock Improvement Act has been applied during 1950-51.	No. of villages for which proposals have been submitted for application of the Act.	Remarks.
1	2	3	4	5	6
1	Ahmedabad ... ..	23	.....	.....	
2	Kaira ... ..	.....	.....	9	
3	Broach ... ..	.....	.....	8	
4	Thana ... ..	8	.....	5	
5	Ahmednagar ... ..	.....	.....	24	
6	East Khandesh ... ..	35	.....	18	
7	West Khandesh ... ..	11	.....	7	
8	Poona ... ..	.....	.....	2	
9	Satara North and South ... ..	36	.....	5	
10	Sholapur ... ..	67	.....	.....	
11	Dharwar ... ..	38	.....	5	
Total ...		218	.....	83	



